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ABSTRACT

The manual is intended to provide guidelines for the planning and development of parks and recreation facilities which are accessible to everyone. Separate chapters present guidelines for the following topics (sample subtopics in parentheses): general information (space relationships and wheelchair functions); general site conditions (soil conditions, viewing height, and site accessibility); vehicular circulation (parking, bus parking, and curb cuts); pedestrian circulation (walks, rest areas, and signs); recreation facilities (swimming beaches, pier fishing, picnic areas, and interpretive trails); children's play areas (riding areas, climbing, water play, and seating); buildings and utilities (entrances, telephones, floors, and toilet rooms); and furnishing (benches and chairs, outdoor grills, and trash containers). (PHR)

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RECREATION FOR ALL

January 1979

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INTRODUCTION

In 1972, the Georgia General Assembly passed a bill, Georgia Laws, 172, page 750 (Act No. 1255, Senate Bill No. 412), requiring that all publicly owned buildings be made accessible to handicapped persons. This step was a major breakthrough for the handicapped citizens of the State of Georgia, for it exemplifies a growing public awareness to the problems of inaccessibility. What may not cause problems for able-bodied persons can completely prohibit the use by a physically handicapped person. For instance, a single step may as well be a spiral staircase to a person in a wheelchair. We need to awaken people to such problems and eliminate unnecessary architectural and site barriers.

The Federal Government has already taken the initiative toward public awareness for the problems of accessibility. In 1961, the American National Standards Institute (ANSI A117.1) set forth standards for making buildings accessible. The standards were revised in 1971 and are currently being revised again. The new revisions should be available to the public in 1979.

Federal Law (P.L. 90-480) passed in 1968 is "An Act to Ensure that Certain Buildings, Financed with Federal Funds are so Designed and Constructed as to be Accessible to the Handicapped." The Rehabilitation Act of 1973 established the Architectural and Transportation Barriers Compliance Board. Under this legislation is the provision that any buildings constructed with federal funds must be accessible. Also, any alterations to buildings and facilities which use 50 percent or more federal funds are subject to this requirement.

In May, 1977, Section 504 of the Rehabilitation Act of 1973 was changed to require any agency which receives federal funds to provide barrier free accessibility. From now on, not only new facilities, but also all established facilities, must meet these provisions at least for principal uses and activities served by the facility. Thus, a lot of retrofitting must be accomplished throughout the United States.

Recreation for All is dedicated to the objective of making Georgia's parks and recreation facilities accessible to everyone. This manual is generally geared to the planning and development of new parks and recreation facilities. Adaptations to existing facilities could comprise an entirely new manual; however, renovations to existing facilities could rely on information contained herein.

Recreation directors and planners can obtain information from Recreation for All to make the primary facilities of their parks barrier free. It is our intention that this manual be used as a resource of information to prevent any barrier problems. Some of the standards set here are taken directly from public laws and are so designated. We hope that responsible people will be willing to make the extra effort to go beyond the minimum requirements of the law. The purpose of Recreation for All is to provide solutions which can be applied to make facilities barrier free. Not all portions of any one existing or proposed park need be barrier free, but at least one access to all principal features must be planned for this purpose.

Generally, handicapped people are considered to be only people in wheelchairs; however, this is a misconception that must be dispelled. In planning for accessibility, there is a need for accommodating a variety of disabilities. Most standards and recommended design criteria are based on the needs of four basic conditions: a person in a wheelchair, or on crutches, or the blind or hearing-impaired person. A more complete listing of conditions requiring a barrier free environment include:

1. Non-ambulatory impairments are those impairments that regardless of cause, confine individuals to wheelchairs;
2. Semi-ambulatory impairments are those impairments that cause individuals to walk, climb, or bend with difficulty or insecurity; examples include

individuals with cardiac and pulmonary ills, or those who require the use of braces, crutches, walkers, or canes, or artificial limbs or orthopedic shoes;

3. Incoordination impairments include faulty coordination or palsy due to brain, spinal, or peripheral nerve injuries;
4. Aging impairments are those manifestations of the aging process that significantly reduce mobility, flexibility, coordination, and/or perceptiveness;
5. Visual impairments range from color blindness to dysfunctions such as loss of sight in one eye, cataracts, ophthalmologic diseases, or total loss of vision;
6. Hearing impairments include deafness or hearing problems which might make an individual insecure in public areas because he/she is unable to communicate or hear warning signals.

A committee of handicapped citizens, parents, and advocates may assist in park planning and designing. Their expertise serves as an effective means of ensuring accessibility of new or renovated facilities. Frequently, a disabled consumer may offer suggestions of inexpensive, alternative ways to make a facility accessibility which able-bodied persons may not have considered.

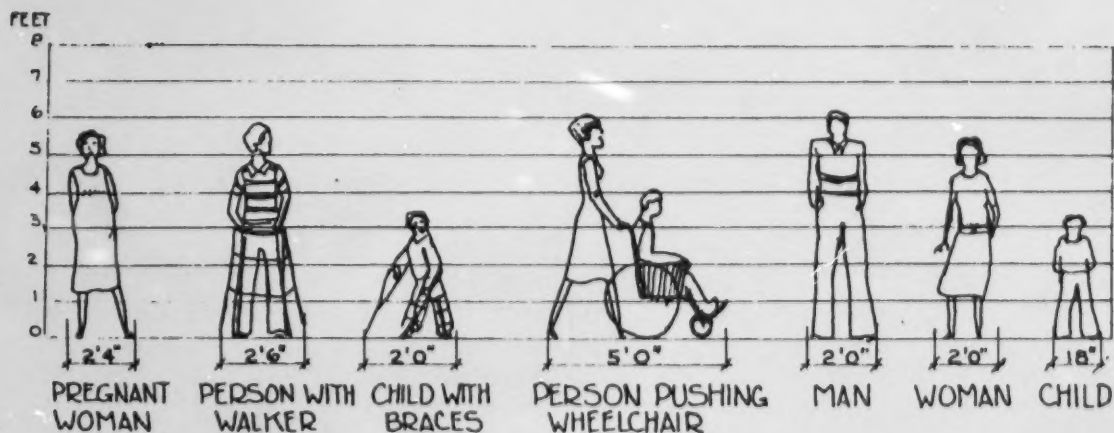
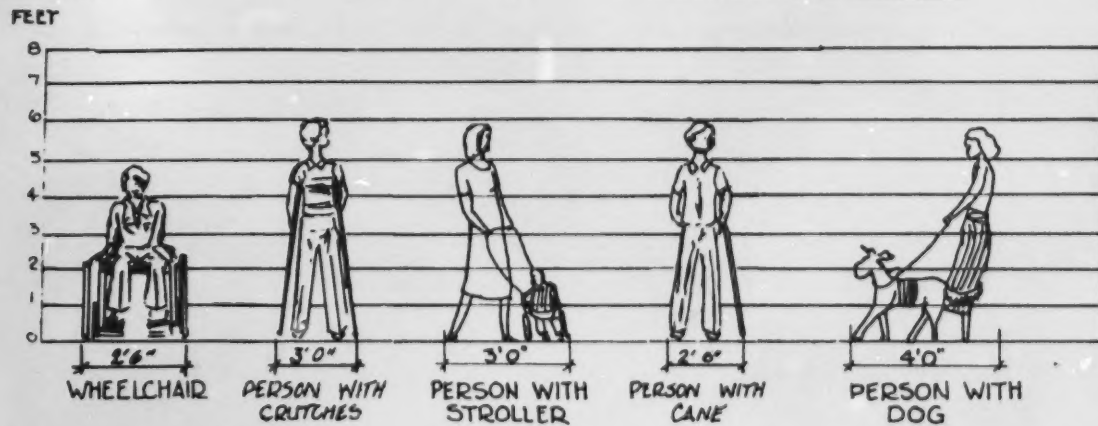
A "barrier free" environment will benefit all people because the environment that is accessible to physically impaired people is easier and safer for all to use.

CHAPTER 1

GENERAL INFORMATION

Section 1: Space Relationships

In designing parks, planners should take into consideration the differences in spacial requirements of handicapped persons. The following graphs illustrate such spacial relationships:



Section 2: Wheelchair Specs for the Standard Adult Model

Length: 42 inches

Width: Average, (when open) 27 - 29 inches

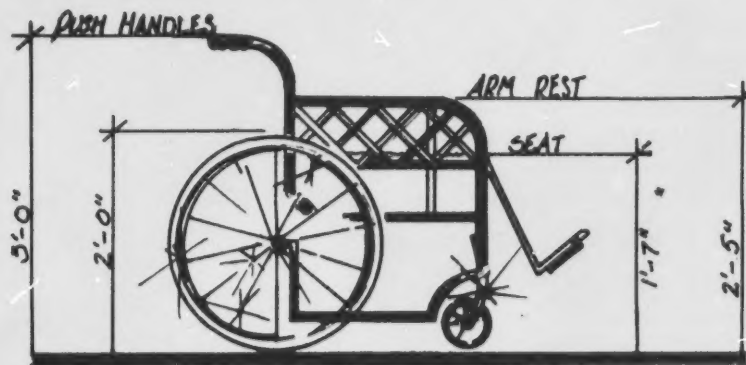
Width: (When collapsed) 11 inches

Height of seat from floor: 19 inches

Height of armrest from floor: 29 inches

Height of pusher handles (rear) from floor: 36 inches

These figures may vary, since each chair is adjusted to fit the user.



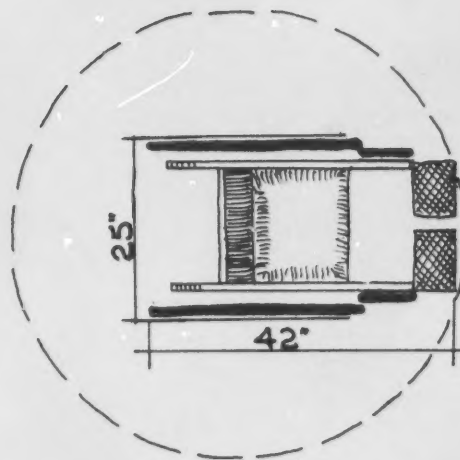
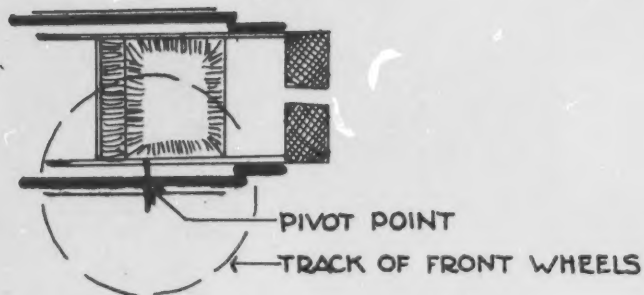
Design Differences:

The Junior-size wheelchair has a 16 inch seat width and an 18 inch height. The Kid (13 inch Junior) and the Junior-size wheelchair is usually used by the 9-12 year old age group. School playground and craft areas should take this into consideration.

The Tiny Tot-Lo chair has a 12 inch seat width and a 14 to 16 inch seat height.

Section 3: Wheelchair Functions

The fixed turning radius for any standard wheelchair is, from wheel to wheel, 18 inches, and from front structure to rear structure, 31 and one-half inches. For a standard size wheelchair, the minimum diameter to make a pivot turn is 64 inches. A turning space that is longer than it is wide is more workable and desirable than a space that is square.



Different degrees of impairments involve different reaching lengths. The following statistics should be considered as average figures:

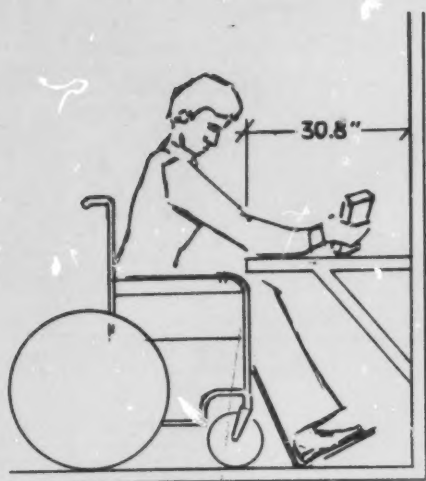
The average unilateral vertical reach is 60 inches (54 to 78 inch range).

The average horizontal working table reach is 30.8 inches (28.5 to 33.2 inch range).

The average bilateral horizontal reach is 64.5 inches (54 to 70 inch range).

An individual reaching diagonally, as would be required in using a wall-mounted telephone or towel dispenser, would make the average reach on the wall 48 inches from the floor.

To make 90 degree turns from a straight line of travel, wheelchairs require a minimum of 60 inches from which to turn into a space 36 inches wide. Thus, corridors should be 60 inches wide.



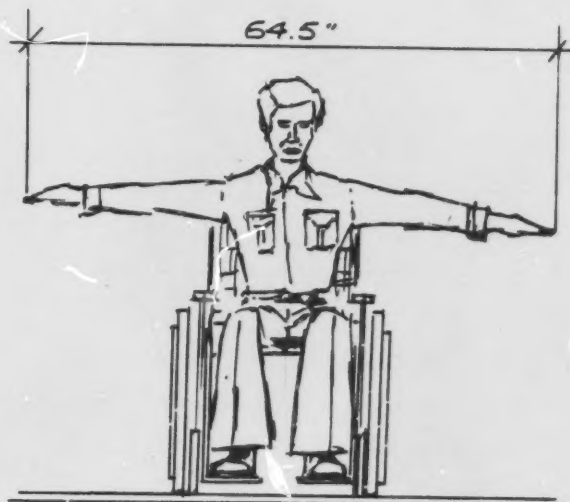
AVERAGE HORIZONTAL REACH



48 INCHES IS THE
MAXIMUM HEIGHT
FOR SWITCHES, LEVERS,
HANDLES, TELEPHONE,
COIN SLOTS, ETC.



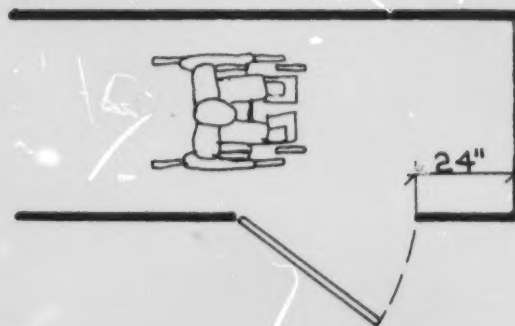
60 INCHES IS THE
AVERAGE REACH
FOR ADULTS IN
WHEELCHAIRS.



BILATERAL HORIZONTAL REACH

To make 90 degree turns through doors or openings 36 inches wide requires that there be no obstacles within 40 inches of the opening. Obstacles may be closer as the width of the door opening increases.

Doors or gates occurring at the ends of narrow passages should have a minimum of 24 inches of space between the opening edge of a gate or door and the nearest perpendicular restriction.



Section 4: Persons Using Walking Aids

Compliance with the guidelines set for persons in wheelchairs will also accommodate people who use such walking aids as braces, crutches, or canes. The following statistics can be helpful in planning areas of pedestrian traffic.

The average individual, 5 feet 6 inches tall, requires an average of 37 inches between crutch tips.*

The average individual, 5 feet tall requires an average of 32.5 inches between crutch tips.*

The average person using a walker requires 2 feet 6 inches or 32 inches of space between walker legs.

*Note: One should allow an average of 36 inches or more for swinging crutch tip space while moving.

CHAPTER 2

GENERAL SITE CONDITIONS

Using the information given in Part 1, the following criteria have been developed for general site development to make parks and recreation facilities barrier free.

Section 1: Soil Conditions

Generally soil suitabilities apply to site conditions. Soft sandy loam and sandy clay soils must be avoided, as wheelchairs tend to sink in them. Soils should be smooth, firm, and stable--devoid of ruts, potholes, etc.--for safe, easy movement. Soils must be well-drained as opposed to clay soils which become water clogged.

Section 2: Slope Considerations

Avoid abrupt changes in slope as they become obstacles and safety hazards. Keep slopes smooth with consistent changes in level when they occur for adequate movement. Use areas on the site may be determined by the slopes found on the site.

Grades up to 8 percent are acceptable for short distances. Where 8% grades are used, there must be level rest areas at intervals not more than 30 feet. Grades of 2 to 3 percent would be better for drainage and movement purposes in high use areas, such as those around buildings, picnic areas, camping sites, and play areas.

Section 3: Placement and Distance to Facilities

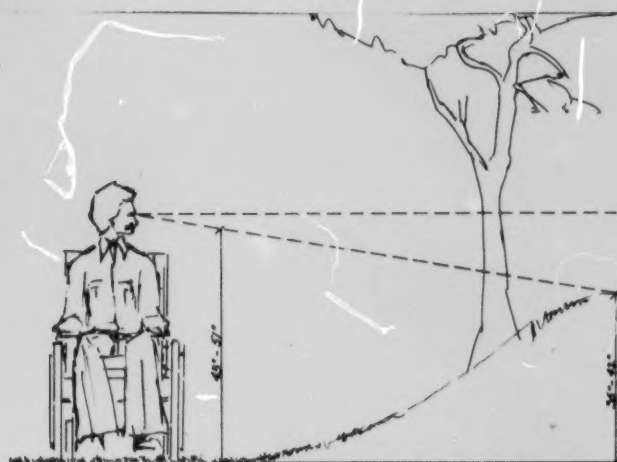
Buildings, shelters, and toilets should be located in close proximity to use areas. Ideally, toilets should be located to serve a maximum radius of 300 feet in high use areas.

Section 4: Shaded and Sheltered Areas

People with physical disabilities may spend much of their time indoors, and consequently, not build up a resistance to the sun. Shade provided by trees or shelters is needed to reduce the possibility of sun burns or heat exhaustion.

Section 5: Earth Berms

Earth berms are often used in site design to define space, give direction, reduce noise, and provide more sitting area on compact sites.



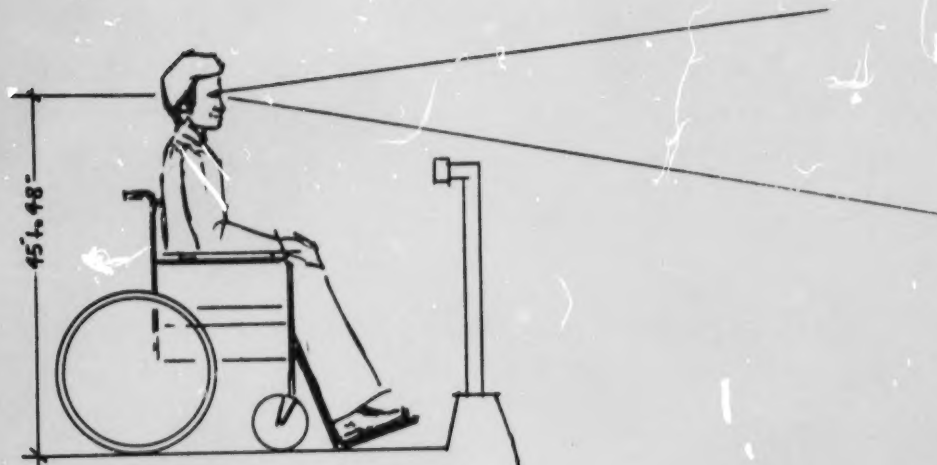
EARTH BERMS SHOULD BE NO HIGHER THAN 42 INCHES.

Earth berms should be no higher than 36 to 42 inches when placed in front of important site features to allow a wheelchair user to see over them. This height also applies to fences, signs, and other barriers, etc., and is especially important in pedestrian crosswalk areas. Sites designed to be used by children should have heights of earth berms, etc., scaled accordingly.

Section 6: Viewing Height

The eye level of the average person in a wheelchair is between 43 and 51 inches. Designers should make considerations for this when designing vistas, nature trails, interpretive areas, and any other amenities to be observed by people.

Standing heights should be considered as well. The average viewing height for standing adults is between 60 and 66 inches.



**VIEWING HEIGHT
AVERAGES BETWEEN
45 AND 48 INCHES.**

Section 7: Site Accessibility

Special transportation facilities should be provided for people restricted in their use of recreation facilities. Separation of various transportation types should be provided to avoid confusion and dangerous points of intersection. Automotive traffic should be separated from both pedestrian and bicycle traffic.



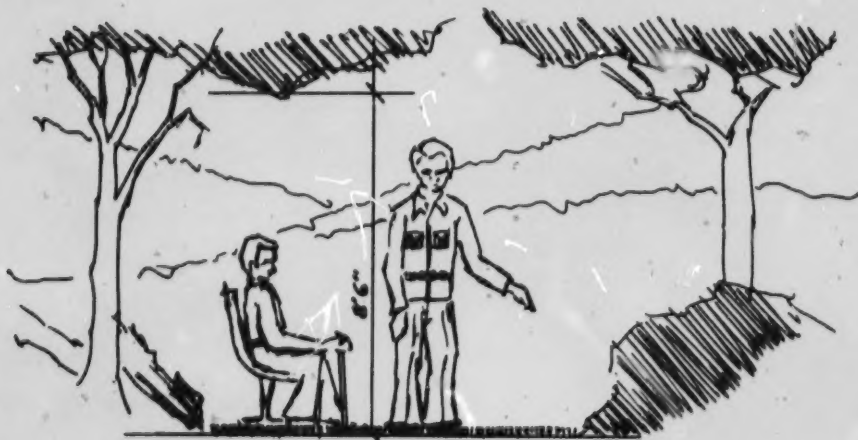
SEPARATION OF TRAFFIC AVOIDS HAZARDS AND CONFUSION.

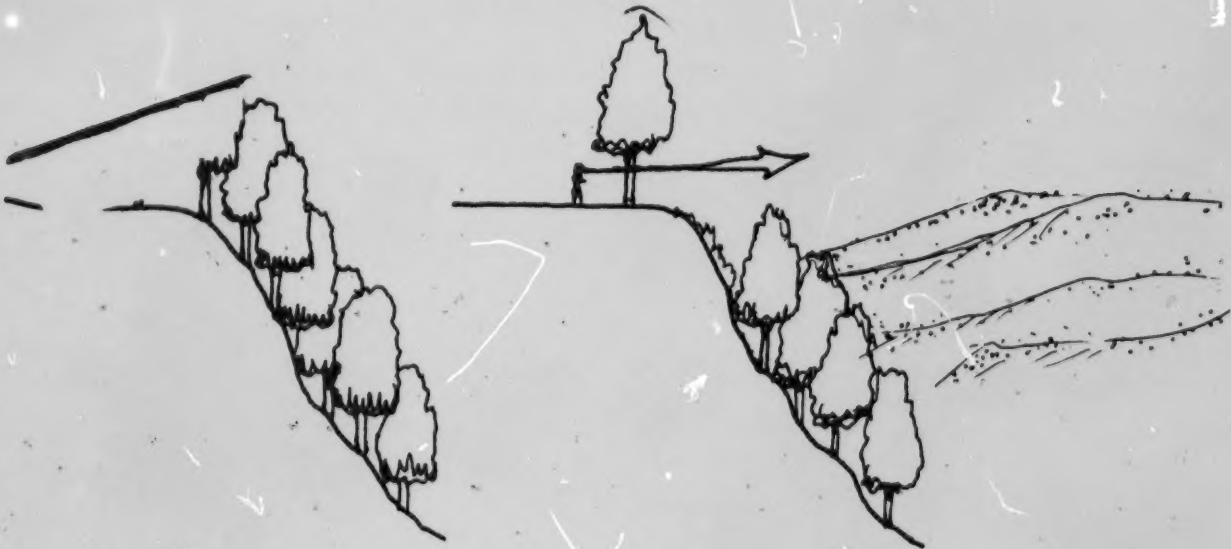
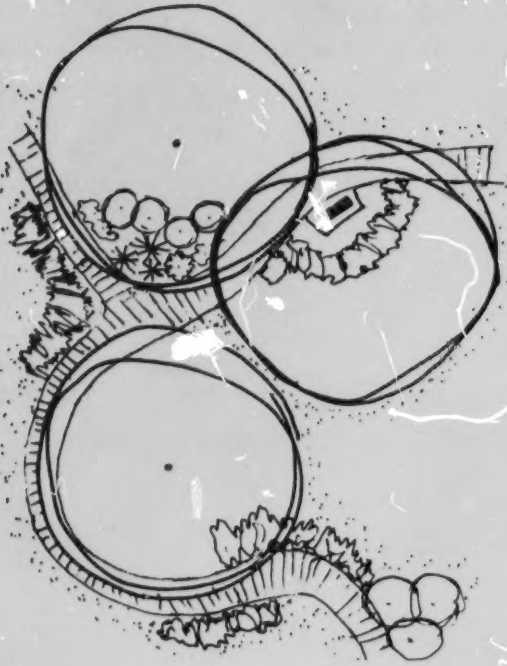
Access to transportation facilities through the site and to buildings should be smooth and free of any barriers which restrict handicapped persons. If level changes are so drastic to the extent that stairs are required, at least one major entrance should be served by a ramp, or provisions for a lift or elevator should be made. At least one principal entrance to the area must be accessible.

Section 8: Site Vegetation

Discretion should be used when selecting plant materials for the site. Plants should be avoided which are a nuisance or a hindrance to traffic. Potentially dangerous plants such as those with thorns, spikes, poisonous fruits, or drooping branches should be prohibited from high use areas and walkways.

Proper maintenance of plants is necessary in the prevention of dangerous situations. Branches overhanging walks should be pruned to a height of 8 feet 6 inches above the ground. Dead trees and dead or rotten limbs which may fall during high winds should be removed. Thought should be given to plant materials which break under pressure of heavy ice loads. Prune plants accordingly.





Plant materials can be used to direct traffic flow, prevent movement into hazardous areas, screen out noise, odors, and objectionable eyesores.

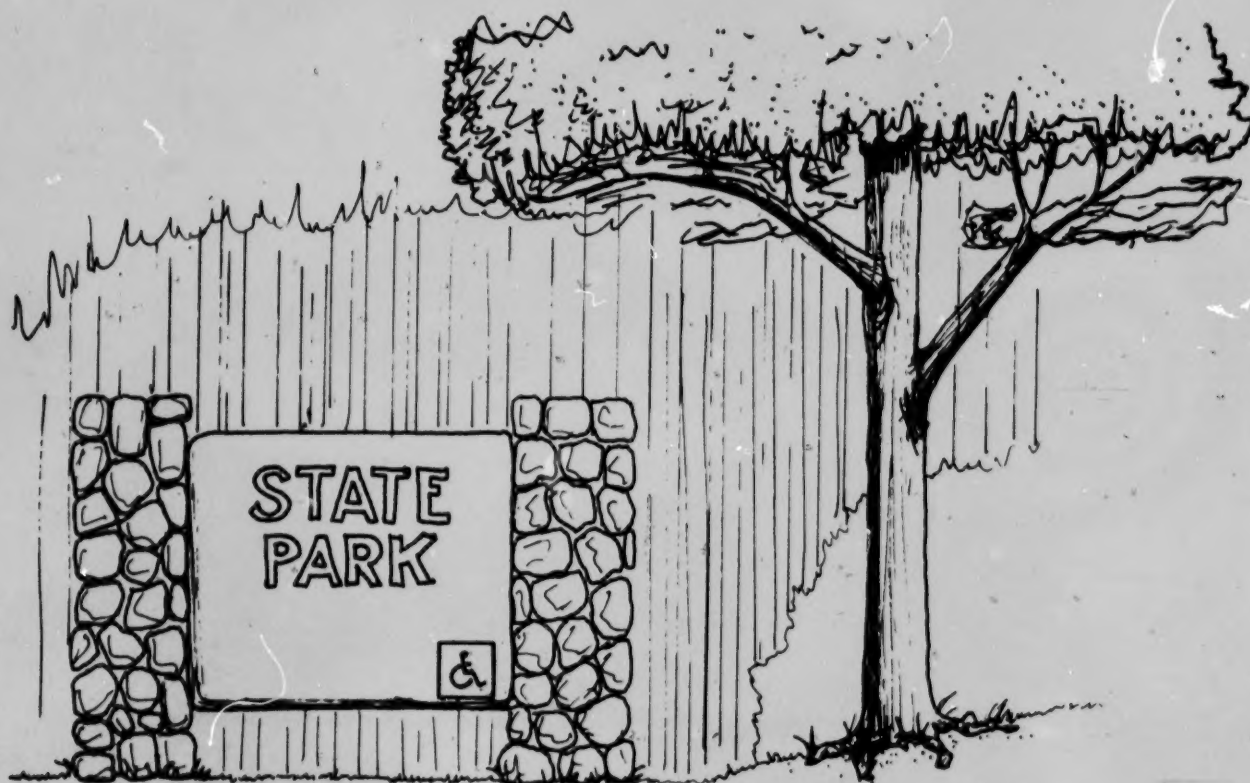
Selective clearing of existing plants can be used to improve views and define spaces. Caution should be used to retain a natural effect.

CHAPTER 3

GUIDELINES FOR VEHICULAR CIRCULATION

Section 1: Park Entry Sign

All entry signs to parks and recreation facilities that provide for handicapped people should be clearly marked with the international symbol of access. Facilities within the park, such as bathrooms, nature trails, picnic areas, etc., also should be appropriately marked with the international symbol of access.

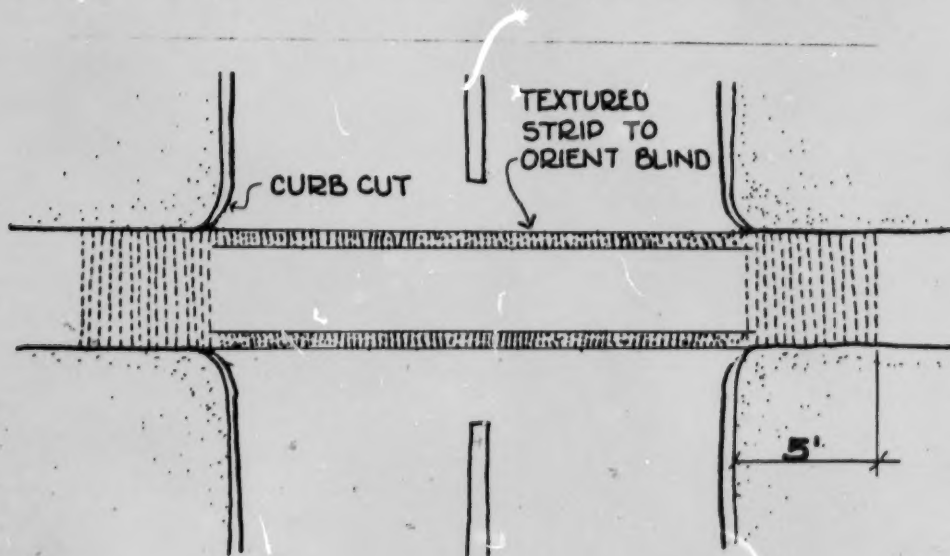


Section 2: Trails Which Cross Roads

Trails should not cross roads. If, for some unavoidable reason, trails do cross roads, they should meet the following requirements:

There should be a change in surface texture beginning at a distance of 5 feet from the edge of the road and extending to the road. Surface material should also be a different color, usually brighter than the remaining surface of the walk to orient the visually impaired.

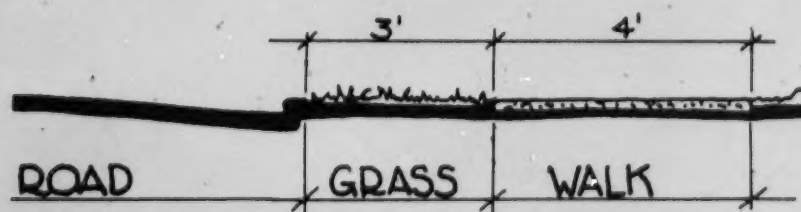
Curb cuts, as described in this chapter, Section 5 (p.14), should be provided at roadway intersections for easy flow of wheelchair persons.

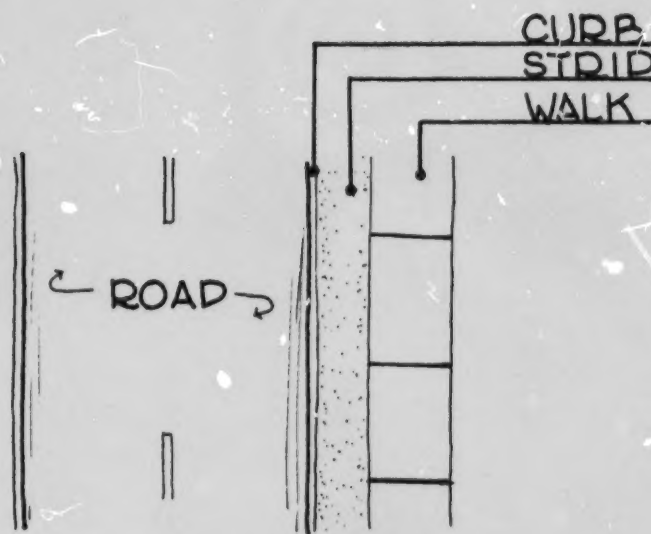


Section 3: Trails Adjacent to Road Surfaces

All trails which follow roads should meet the following requirements:

- All trails should be separated from the road by a 3 foot wide planting strip.
- All roads should be bordered on each side by a 6 inch curb.





Section 4: Parking

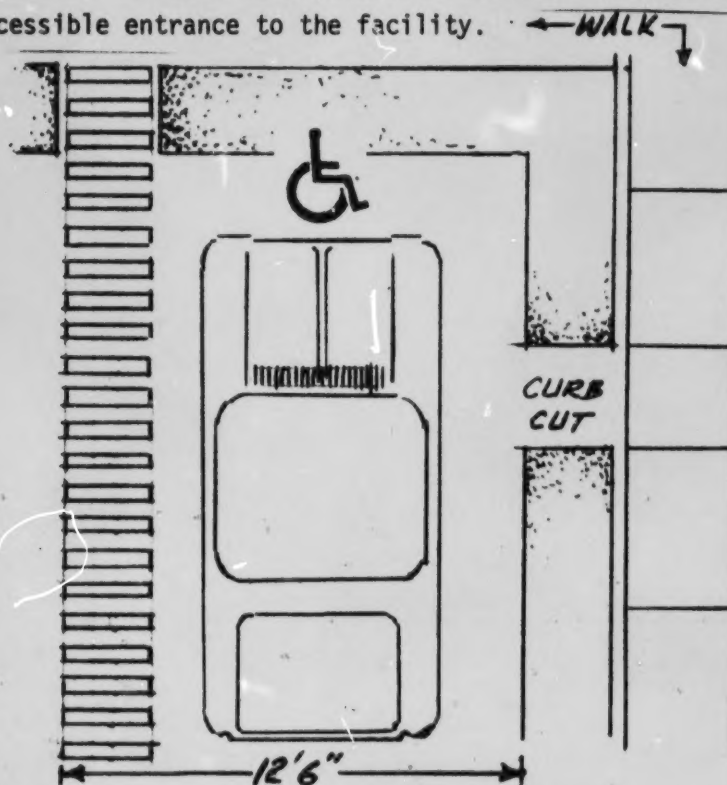
All parking lots for general use in parks and recreation facilities should provide two spaces for handicapped people for every 20 people in each lot. The minimum number in any lot must be 2 spaces.

Parking lots should be fairly level. Slopes should not exceed 7 percent and preferably no more than 5 percent. Avoid the use of tar and gravel paving in lots as this surface texture impedes wheelchair users. Use hard surface of concrete or asphalt.

Parking spaces for handicapped people should meet the following requirements:

- All spaces should be a minimum of 12 feet 6 inches wide. Length must conform to all other spaces in the lot.
- Parallel spaces should be open and level with adjacent walks.
- Spaces should be located next to walks or at one end of the parking lot to prevent handicapped persons from having to pass through the parking lot behind the cars.
- Different colored paving surfaces or painted lines can be used to differentiate handicapped parking spaces from loading zones and other parking spaces. Each space reserved for handicapped people should be marked with the international symbol of access.

- Parking spaces should be no more than 200 feet from the principal facilities served by parking lots.
- Parking lot walks should be level with the lot. This can be done by using 8 foot long wheel stops. If walks are raised, curb cuts should be provided at proper access points. There must be an accessible path from the parking space to the accessible entrance to the facility.



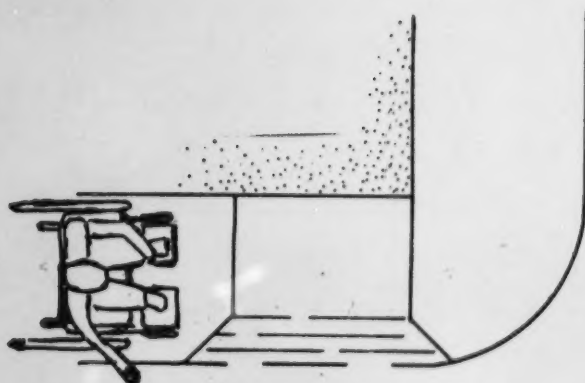
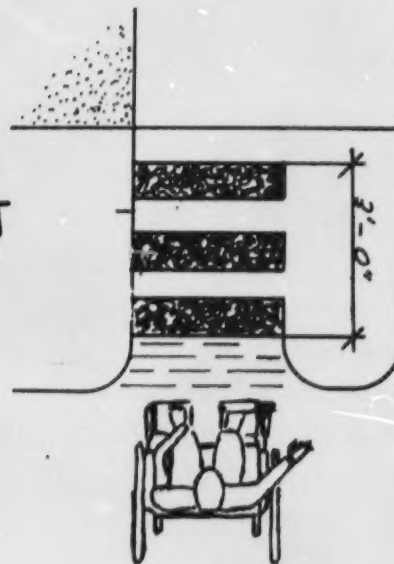
Section 5: Curb Cuts

If curbs are not necessary, they should be avoided. When they are used, curb cuts should be provided at all pedestrian access points. Curb cuts should be a minimum of 3 feet wide to allow easy access for wheelchair persons with a maximum gradient of 17 percent or 1 in 6 and lip no greater than one-half inch at the bottom.

The following methods are suggestions for curb cuts:

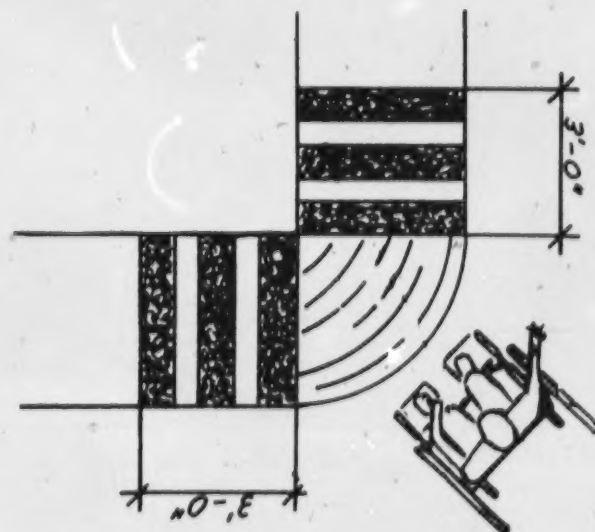
- Offsetting an inclined section of the walk--such an incline will meet the street surface.
- A centered incline using the previous technique--such an incline

CENTERED CURB CUT



OFFSET CURB CUT

ARC CURB CUT



should include a change in surface texture to orient the blind.

- Dropping the arc of the curb at intersections to meet street level-- the gradual drop plus a change in texture will help orient the blind.

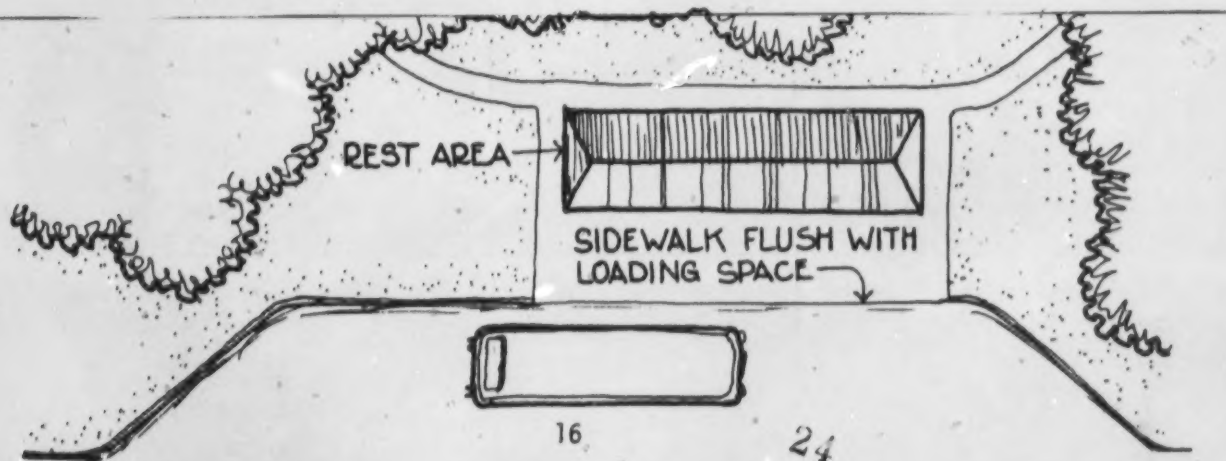
An alternative to curb cuts when walks intersect with roads is the raised crosswalk. Such a crosswalk should be flush with the sidewalk surface and should comply with standards set in Chapter 4, Section 2 (p. 18). Sides of the crosswalk should be sloped so as to form a "speedbreaker". Signs should be placed 20 feet before each speedbreaker to warn drivers.

Section 6: Bus Parking

Bus parking for handicapped groups should be provided where large groups are transported by bus to park and recreation facilities.

Bus loading areas for handicapped people should meet the following requirements:

- Bus parking should be located directly adjacent to walks and platforms so that passengers can unload onto the sidewalk.
- A protected, restricted space should be provided at the rear and the access side of buses used for unloading passengers.
- Protection from the weather and a rest area, including benches, should be provided.
- Bus loading zones should be no more than 300 feet from major park facilities.



CHAPTER 4

GUIDELINES FOR PEDESTRIAN CIRCULATION

Section 1: Walks

Walks are defined as any path used as linkage to park facilities.

All walks should meet the following requirements to be accessible:

- Gradients on all walks should not exceed 5 percent (a rise of 1 foot over a distance of 20 feet), but sustained grades of 4 percent--5 percent should have 5 foot level areas every 60 feet for rest and safety. Best suited to wheelchair travel are walks with slopes of 3 to 4 percent.
- Walks should have smooth-textured non-slip paved surfaces. Brushed concrete and asphalt are excellent for walks.
- Minimum use of expansion joints is mandatory. Expansion joints may not exceed one-half inch.
- Drainage structures should be prohibited from all sidewalks.
- Walks should be well lighted in high use areas, parking areas, and toilet facility areas.
- Walks should have a cross slope of .5 percent for drainage.

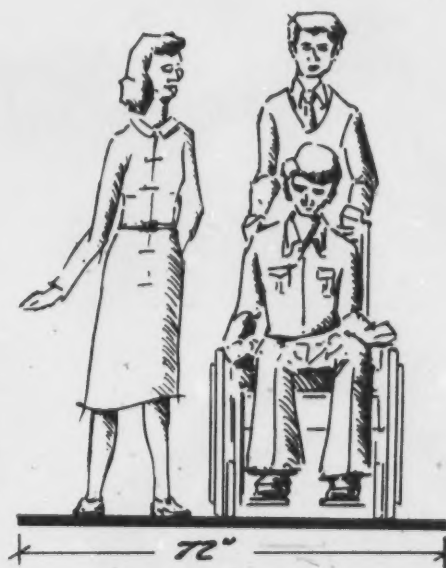


Walk Dimensions:

Width of walks should vary with regard to the amount and type of traffic use received. The following requirements will be beneficial to all park users:

- All walks should be a minimum of 4 feet wide.
- A minimum width of 6 feet for two-way traffic should be used in moderate traffic areas.
- Areas of high concentration of pedestrian traffic, especially wheelchair users, should have a minimum width of 8 feet.

The following diagrams give the minimum space requirements for straight line travel for outdoor access walks:

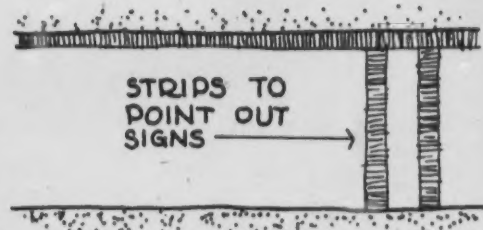
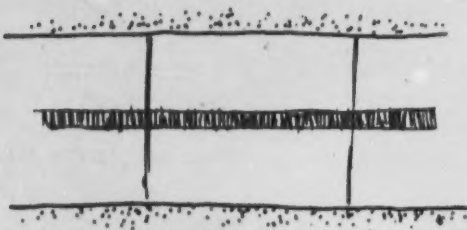


Section 2: Orientation Indicators for the Blind:

Walkways can use one of two methods designed to help orient blind people. One method is to put a textured strip down the middle of the sidewalk. A variation of this method involves placing the strip to one side of the sidewalk. Textured strips perpendicular to the direction of travel could be used to point out signs, which should be uniformly placed. The second method involves direction indicators such as

guide rails, fences, or rope strung between fence posts. See Chapter 5, Section 9 (p. 35).

A white or light colored line can be painted in the middle of the walk to aid the partially sighted.



Section 3: Rest Areas

Rest areas should be provided adjacent to main pathways. Such areas will be beneficial to all park users and should contain furnishings as specified in Chapter 8, Section 1; (p.55).

Rest areas should be of a textured surface different from walks to orient the blind.

Section 4: Wheel Stops

Wheel stops should be provided along at least one or both sides of walks where the terrain drops to prevent accidents. Such wheel stops should be a minimum of 3 inches high and 4 inches wide. Wheel stops should have breaks in them every eight feet for drainage purposes.

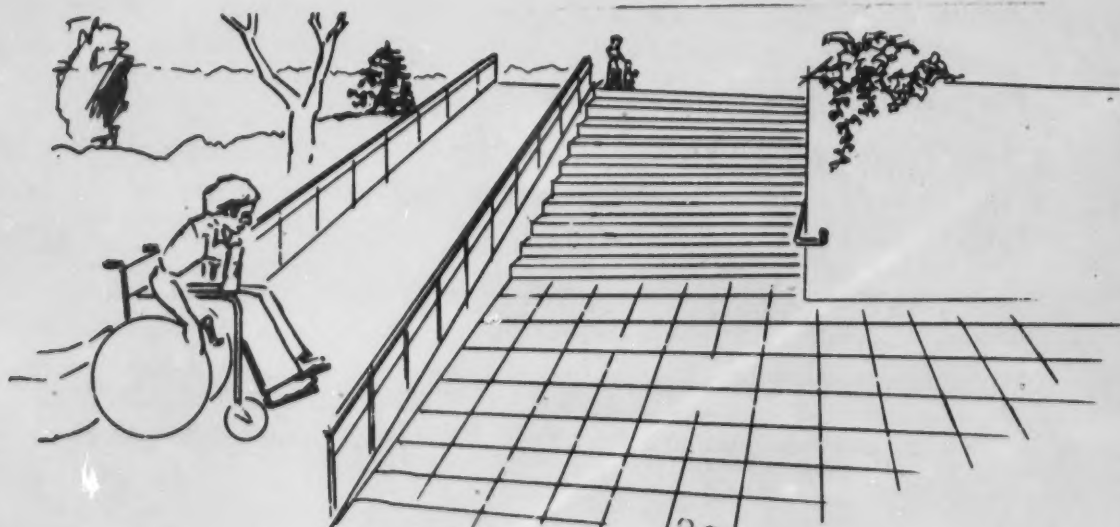
Section 5: Changes of Level - Ramps

Any surface or walk with a gradient of more than 5 percent is a ramp. All ramps used in parks and recreation facilities should meet the following requirements:

- Ramps should have handrails on both sides. Handrails should be 32 inches high. Midrails 22 inches high should also be used to accommodate children.
- The maximum gradient for ramps should not exceed 8.33 percent,

(a rise of 1 foot over a distance of 12 feet. Ramps with a gradient of 8.33 percent should not exceed 30 feet. When ramps exceed 30 feet in length, a level platform at least 5 feet long should be provided at 30 foot intervals. Ramp gradients of 7 percent or less are preferable maximums for the elderly and those who wear braces. These ramp gradients should not exceed 35 feet.

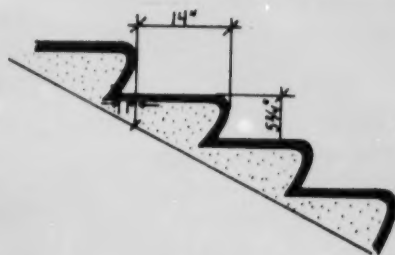
- All ramps should have a clear width of 3 feet. If a ramp is not restricted to wheelchair use only, the minimum width should be 4 feet. Ramps in heavy pedestrian use areas should be a minimum of 6 feet wide for passing wheelchairs.
- Bottoms and tops of ramps should be level and have a clear distance of 6 feet. Approaches should be of a different texture to warn cross traffic and particularly the blind of approaching ramps.
- Ramps should be designed to carry a minimum live load of 100 pounds per square foot.
- Ramps and landings should have curbs 3 inches high and 4 inches wide on both sides to allow for wheel stops and turns.
- Ramps should be lighted to assure safe night use. Lights should be placed so shadows will not be cast on approaches.
- Surfaces of ramps should be non-slippery when wet.

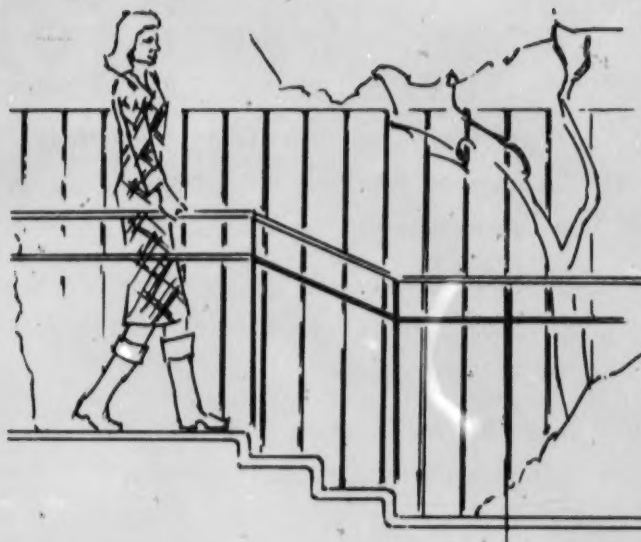


Section 6: Changes in Level - Steps

Outdoor steps are considered a detriment to handicapped people and should be avoided. When used, steps or stairs should conform to the following standards set by Georgia law:

- Steps should have a minimum clear width of 3 feet. Steps used in high pedestrian traffic areas should be widened to no less than 6 feet.
- Level changes between landings for exterior unprotected steps without handrails should not exceed 1 foot (two steps). When handrails are used, a rise of 4 feet is acceptable. Landings a minimum of 4 feet wide should be provided midway for any level changes exceeding 4 feet. For protected steps, landings can be at 6 foot intervals.
- All steps in a series should have uniform tread width and riser height. (Open risers are not permitted.)
- Nosings should be rounded or chamfered to reduce tripping hazards. Contrasting colors should be used on nosings to differentiate treads for partially sighted.
- Step treads should be a minimum of 14 inches wide. Risers should be no more than 5 and three-quarters of an inch high and not less than 4 inches with an 18 inch tread.
- Steps should have handrails on both sides 32 inches high as measured from the tread at the face of the riser.
- Steps should have handrails that extend a minimum of 18 inches beyond the top and bottom step.
- Materials and finish should be non-slip, i.e., brush finished concrete. Anti-slip strips should be placed on top of nosings.



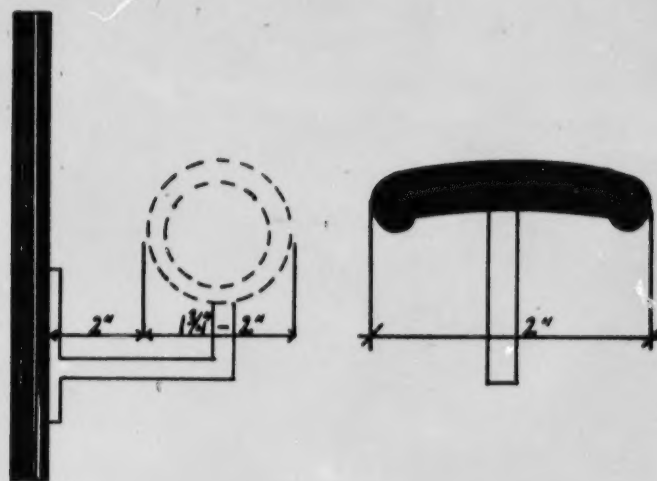
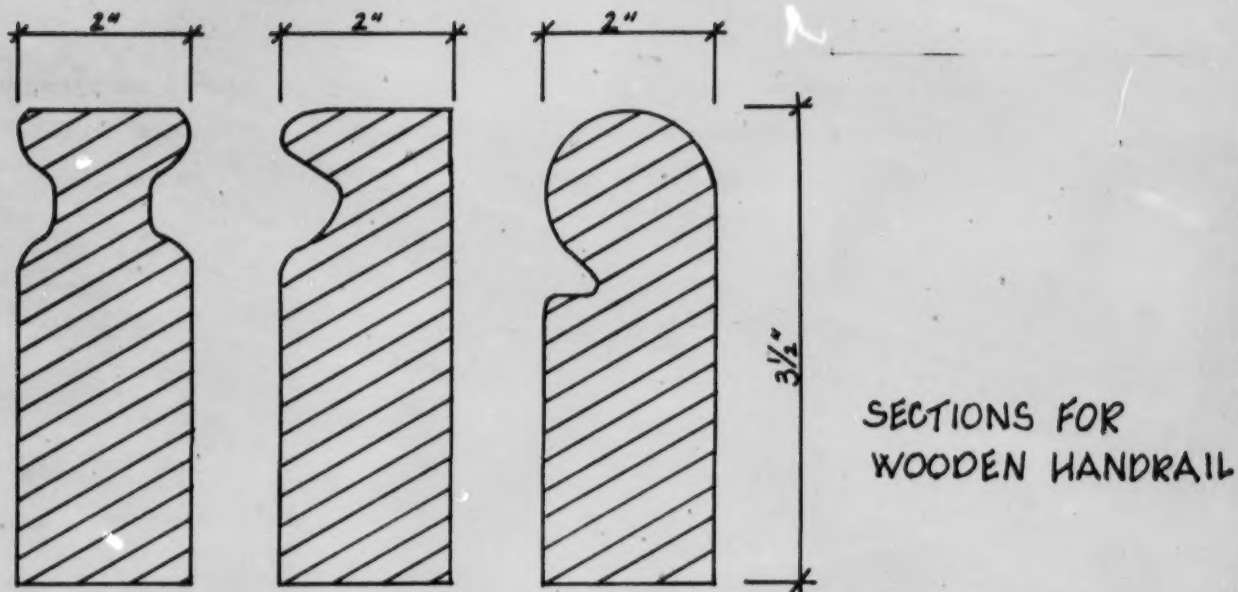


Section 7: Handrails

All handrails used in parks and recreation facilities should meet the following requirements:

- Handrails should be 32 inches high unless specifically stated otherwise. A low bar 22 inches high should be used to accommodate children.
- Gripping surfaces of rails cannot be more than 2 inches wide. A wider surface is difficult to grip. (Preferred range: 1 and one-half to 2 inches.)
- A space 2 inches wide should be provided between handrails and any adjacent wall.
- Handrails should have rounded ends to prevent accidents.
- Handrails should be secure and able to support a 300 pound weight.

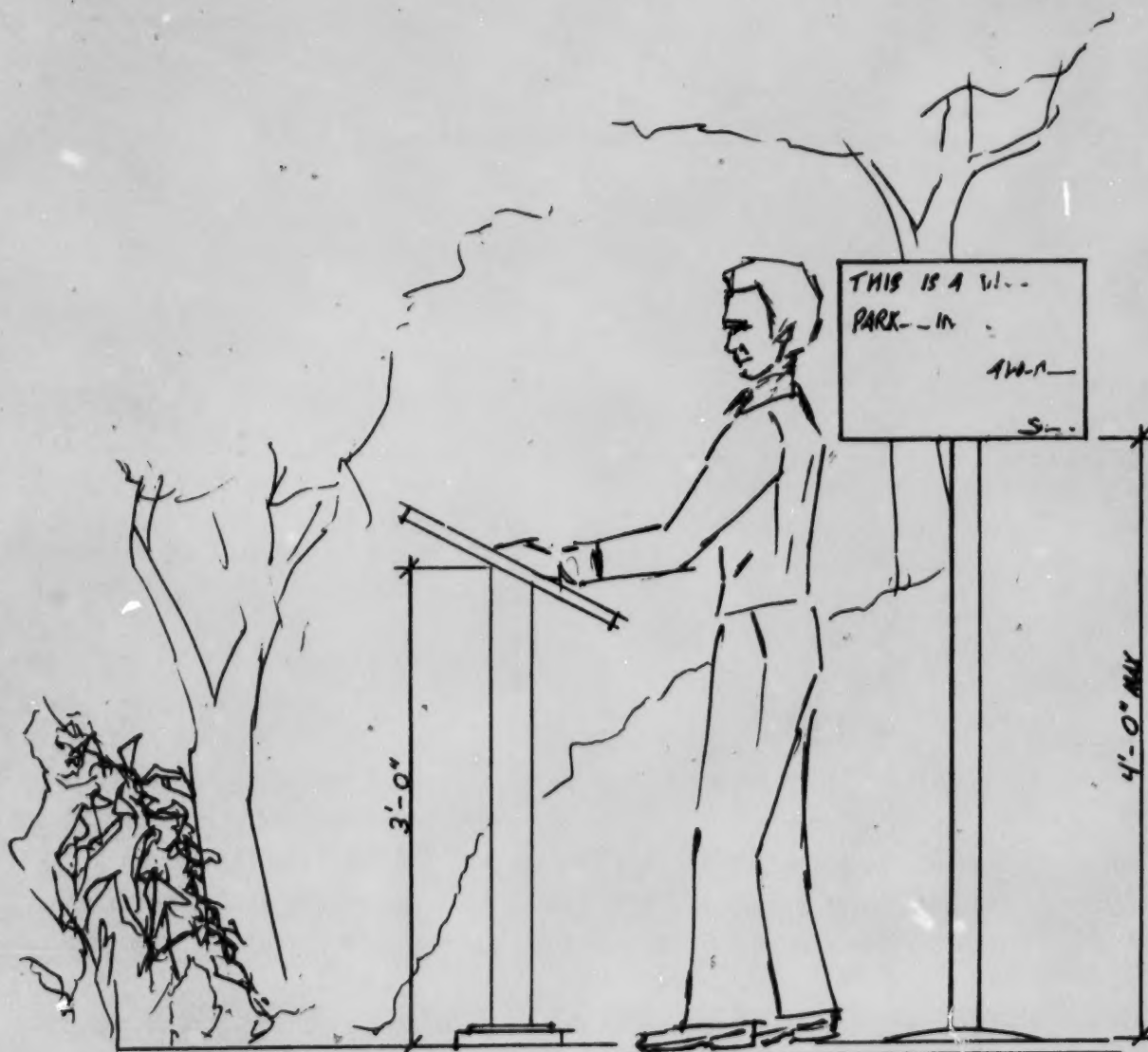




Section 8: Signs

Signs should be used along walkways and interpretive trails to point out items of interest. Braille or raised or routed letters should be used on signs to facilitate blind persons. Directional arrows on signs can help point out items of interest. For the best orientation, signs with braille should be diagonal to the ground and 3 feet from the ground. Signs with raised or routed letters may be placed adjacent to the braille plate with the lower edge no higher than 4 feet from the ground; routed or raised letters and symbols should be painted a contrasting lighter color than their back ground, and night lighting provided on the sign.

Minimum size letters are 24 point letters. All signs should be uniformly placed for orientation for the blind. A change in the texture of the walkway may be an indicator to a blind person that there is a sign.



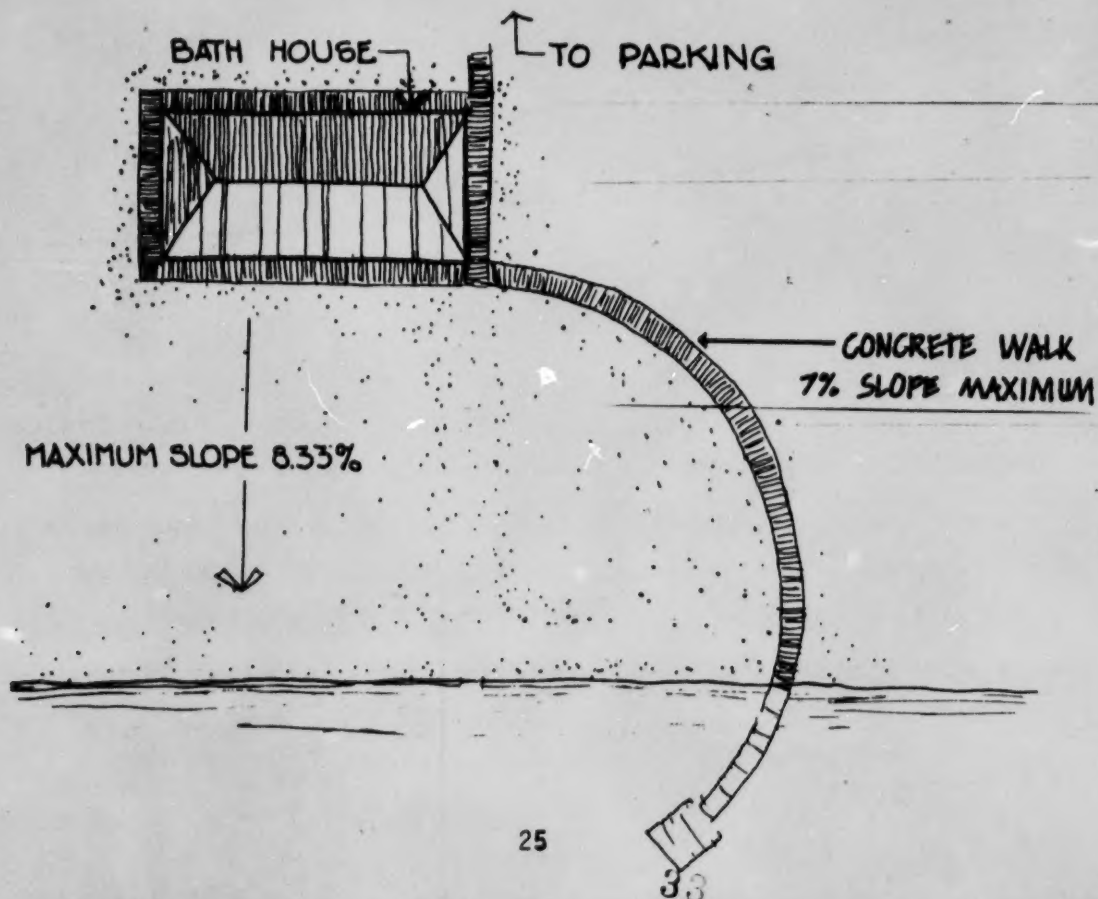
**SIGNS SHOULD PROVIDE
BRAILLE AND RAISED OR ROUTED
LETTERS.**

CHAPTER 5

GUIDELINES FOR RECREATION FACILITIES

Good physical and mental health are basic needs of all people. When designing public parks and recreation facilities, care should be taken to include all persons so that they may attain these needs. The following criteria are standards to be used in making parks and recreation facilities barrier free.

Section 1: Swimming Beaches



All natural or man-made bodies of water which have public beaches for recreational use should meet the following requirements:

- Swimming areas should have a 4'0" wide concrete access walk leading from the bathhouse into the water and ending at a concrete pad 6 feet by 6 feet.
- A handrail 32 inches high should accompany the walk from the bathhouse and extending into the water to a lower level depth of approximately 2 feet 6 inches.
- Beach gradient slopes, as well as lake bottom slopes of swimming areas, should not exceed 8.33 percent.
- Some persons may not be able to swim or may prefer to sit in the water. A swimming area not less than 30 square feet and not exceeding a depth of 3 feet should be provided for non-swimmers.



Section 2: Swimming Pools

All parks and recreation facilities providing pools should provide accessibility to all persons, including individuals in wheelchairs.

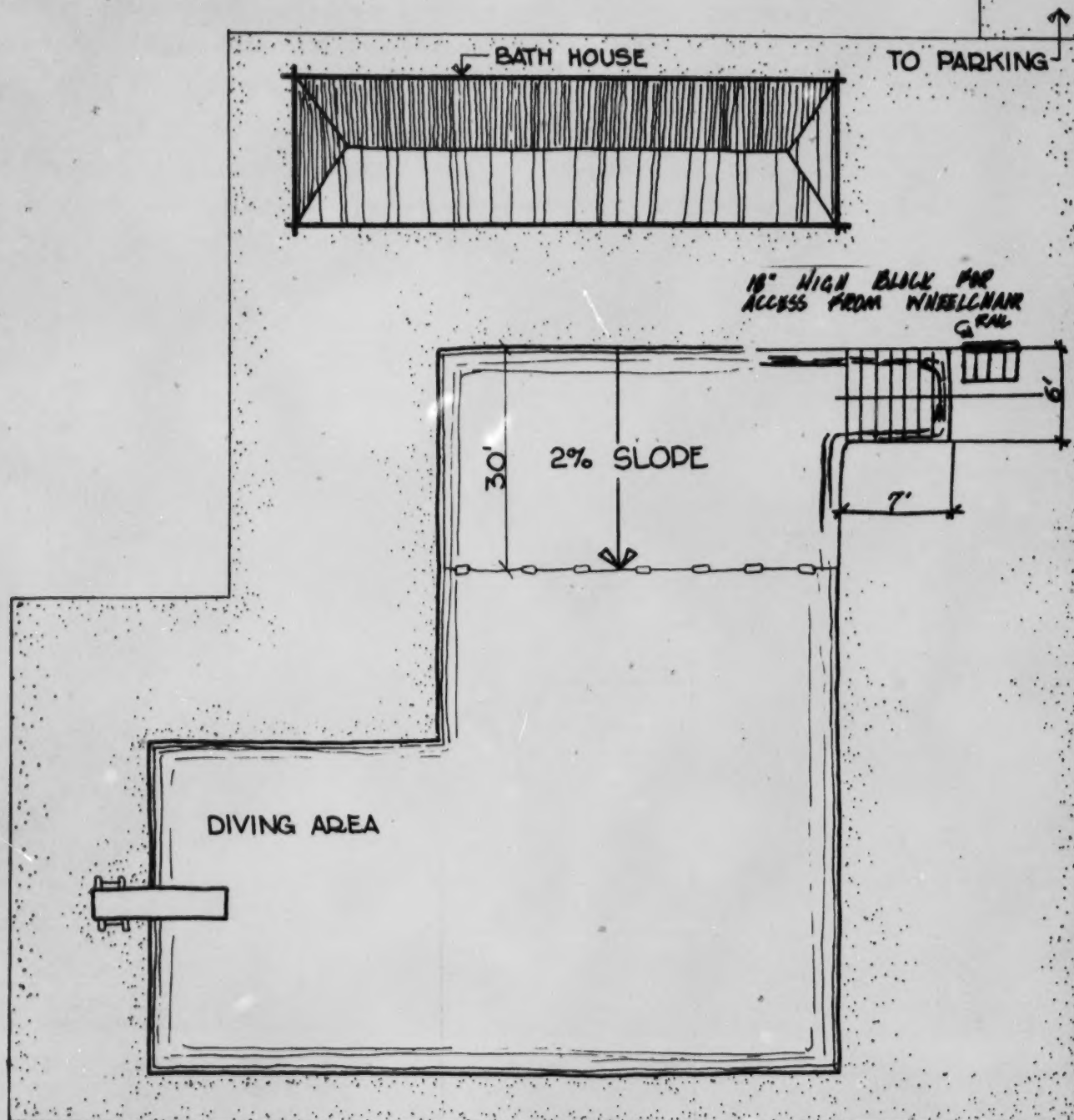
- Pools must be accessible to parking lots with walks described in Chapter 4, Section 1, (p. 17). Entrances to pools should have gates and textured strips in pavement to warn blind people.
- Access to pools by wheelchair persons should be by one of two methods:
 - (1) Where feasible, ramps with a maximum 8.33 percent slope

(7% preferred) and a 32 inch high handrail will allow access to all persons.

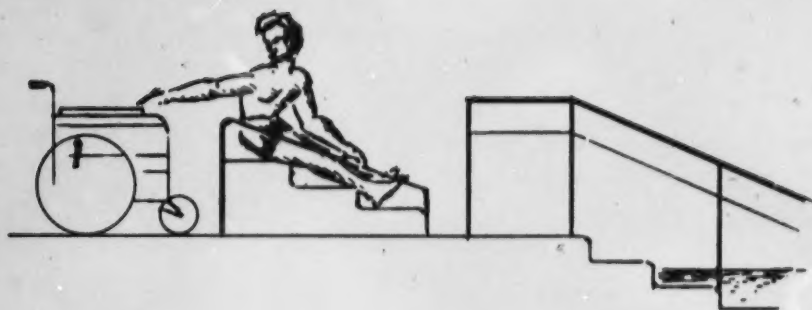
- (2) Steps should be used in place of ladders in shallow areas. Where steps are used, 6 inch risers and 14 inch treads are suggested to allow semi-ambulants easy access into the water. These steps can also be used for sitting.
- Steps should have a 32 inch high handrail. Such handrail should have a 6 inch high lower rail which will aid persons who cannot stand to shift from step to step. A block of steps should be placed in front of the pool steps to aid persons in getting out of their chairs.



ACCESS FOR THE HANDICAPPED CAN BE
A STAIRWAY AT THE SHALLOW END.
POOL AREA MUST BE NON-SLIP PAVING.



SURFACE TEXTURE OF WALKS AROUND POOLS MUST
DIFFER FROM OTHER WALKS TO ORIENT THE BLIND.



- All pavement in the pool and on sidewalks surrounding the pool should be non-slip and non-abrasive.
- Access walks to the pool area should conform to standards set in Chapter 4, Section 1 (p. 17).
- Changing the surface texture of walks leading to the pool to differ from walks around the pool will help orient the blind.
- If lockers are provided in bathhouses, a reasonable number of lower lockers should be reserved for wheelchair users.

Section 3: Spray Pools

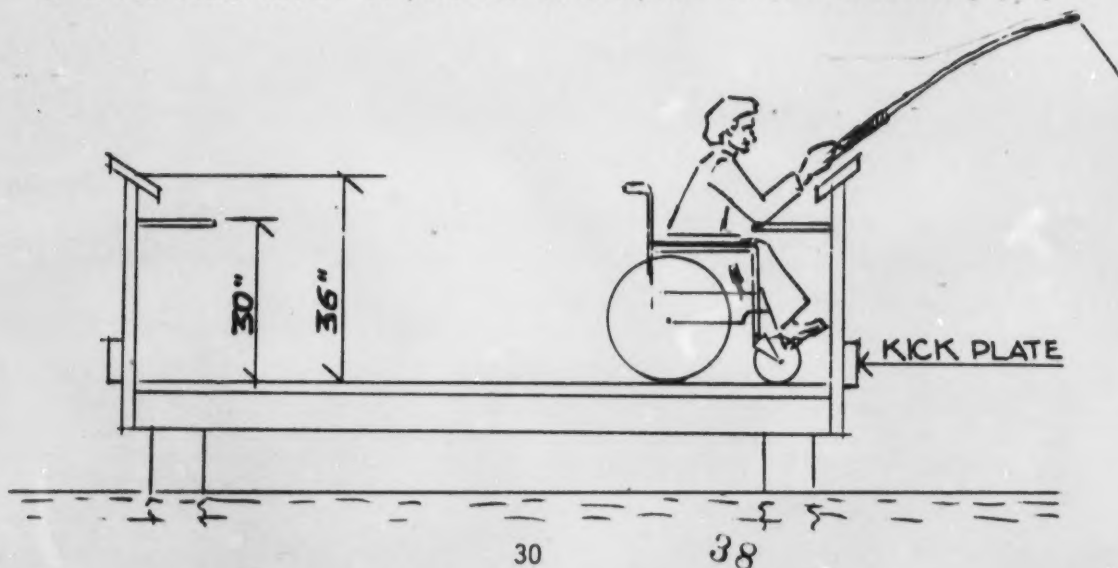
Spray pools could be considered for those who cannot be submerged in water. Spray pools should consist of the following:

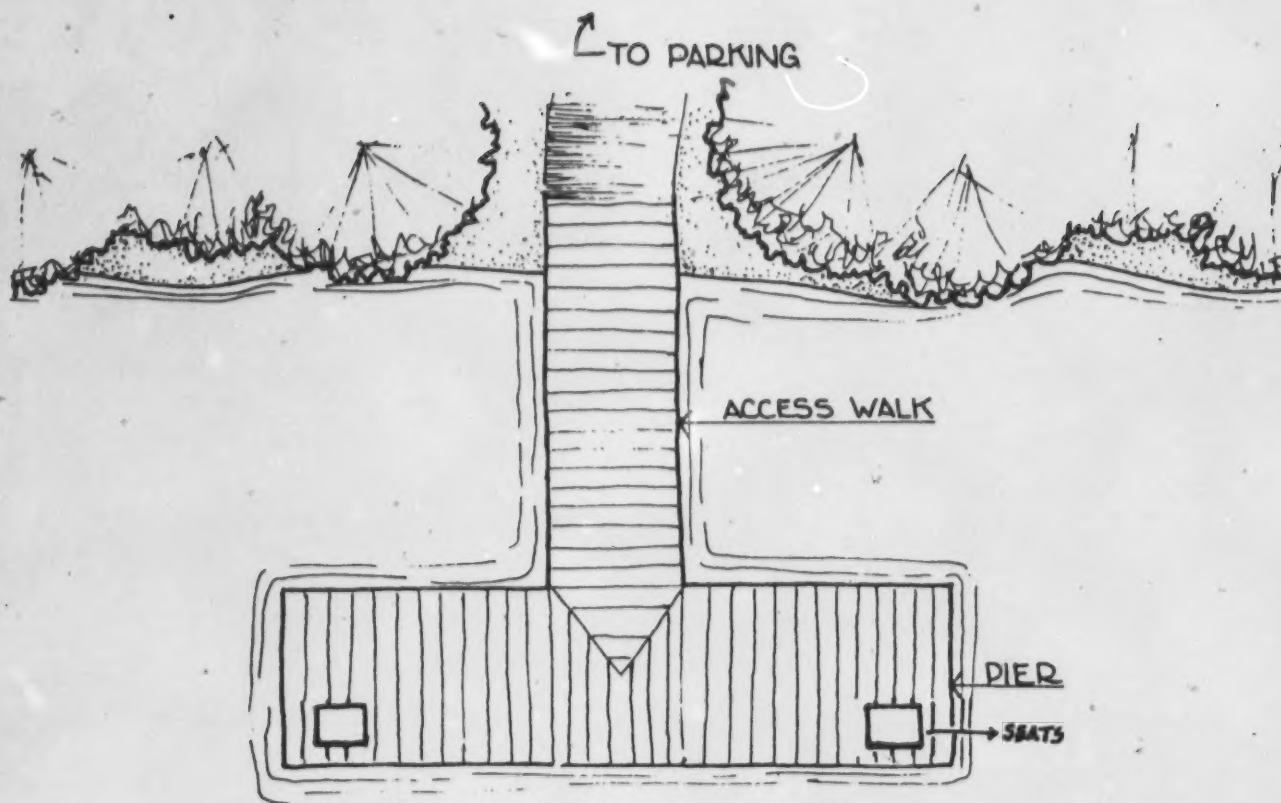
- A jet of water, which rises to a height of not less than 7 feet and then falls to a paved basin that has sufficient drainage, should be provided.
- Benches should be provided in the spray area for those with restricted mobility.
- A clear area for the movement of persons in wheelchairs under the jet should be provided.

Section 4: Pier Fishing

If fishing is provided, at least one pier should be built to provide relaxation for handicapped persons where the following standards are met:

- Access walk to the pier from the shore should be a minimum of 5 feet to allow for the turning of wheelchairs. Paths leading to the access walk should conform to standards set in Chapter 4, Section 1 (p. 17).
- Fishing platforms should be a minimum of 8 feet wide to provide adequate room for circulation and tackle storage.
- Handrails should be provided around the entire pier. Handrails should be 36 inches high and have a 30 degree angle sloping top for arm and pole rest.
- A shelf for bait and tackle should be provided at a height of no more than 30 inches from the floor of the pier. The shelf should extend two feet beyond the handrail.
- A kick plate must be provided to prevent foot pedals of wheelchairs from going off the pier.
- A smooth non-slip surface should be provided on the access walk and the pier. Boards used for the surface area should be laid no more than one-half inch apart and should be laid as shown in the diagram.
- A few seats should be provided on the pier for semi-ambulatory people.

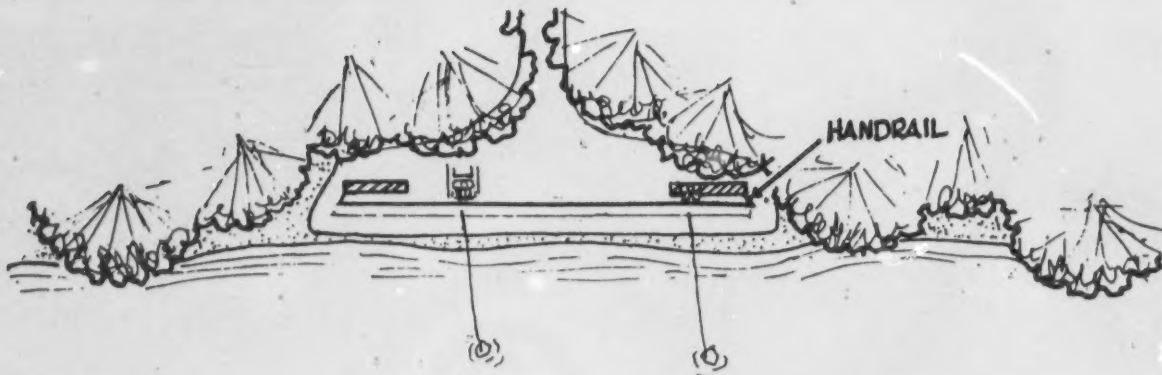




Section 5: Shore Fishing

A few areas along water bodies that provide for fishing should have the following standards to facilitate the handicapped:

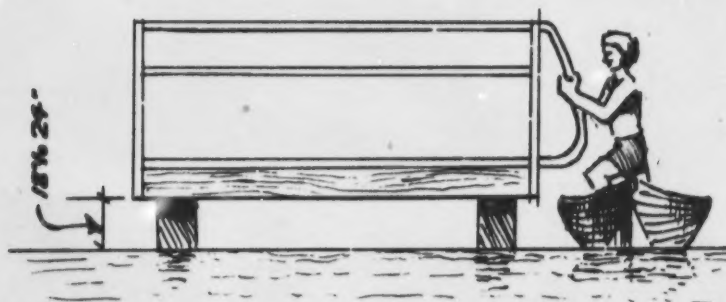
- Fishing areas should have a level hard surface area about 30 feet long and extending 8 feet from the shore, accessible by walks conforming to Chapter 4, Section 1 (p. 17).
- A curb and handrail conforming to standards set in Chapter 4, Section 7 (p. 22), should be placed directly along the edge of the paved surface.
- 6 to 8 foot benches should be provided in the fishing area along the bank for semi-ambulatory persons.



Section 6: Boating

Some boating facilities should be accessible to handicapped people, and the following requirements should be met:

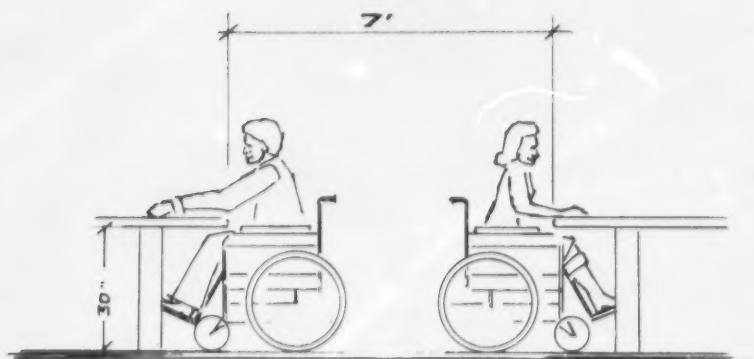
- Access to these boating docks should be over paved surfaces conforming to standards set in Chapter 4, Section 1 (p. 17).
- Handrails must conform to standards set for fishing piers. One side of the dock should have a modified rail able to support a 300 pound weight load, allowing easy access to boats.
- Boat docks should be no less than 8 feet wide with access walks 5 feet wide.
- Boat loading docks should be designed to be level with the major type of boat to be used with the facility. Generally a dock should be 18 to 24 inches above the water level. Floating docks can best meet these requirements.

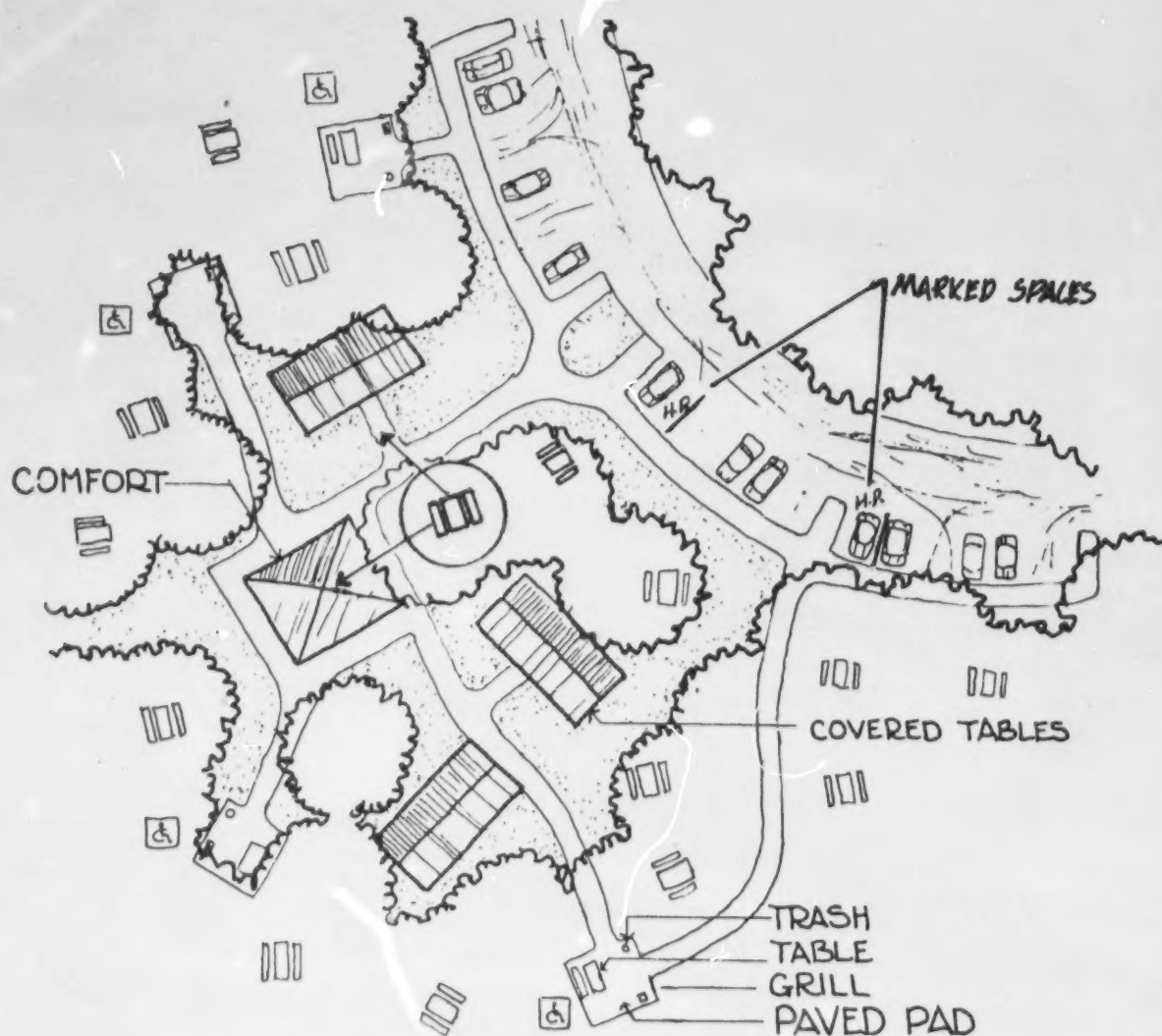


Section 7: Picnic Areas

Picnic areas in parks and recreation facilities should meet the following requirements to accommodate the handicapped.

- Picnic areas must have access to parking lots with walks conforming to Chapter 4, Section 1 (p. 17).
- If the cost of providing paved paths throughout the picnic area is prohibitive, at least the first two tables in the area should be accessible.
- At least one group of accessible picnic tables should be covered to protect users from adverse weather conditions.
- Groups of tables to be used by wheelchair users should have a clear distance of 7 feet between them.
- Picnic areas should contain a comfort station within 200 feet of the accessible tables, with access on walks conforming to Chapter 4, Section 1 (p. 17).
- Grills and tables to be used by handicapped persons should conform to standards set in Chapter 8, Sections 2 and 3 (pp. 56 and 58).



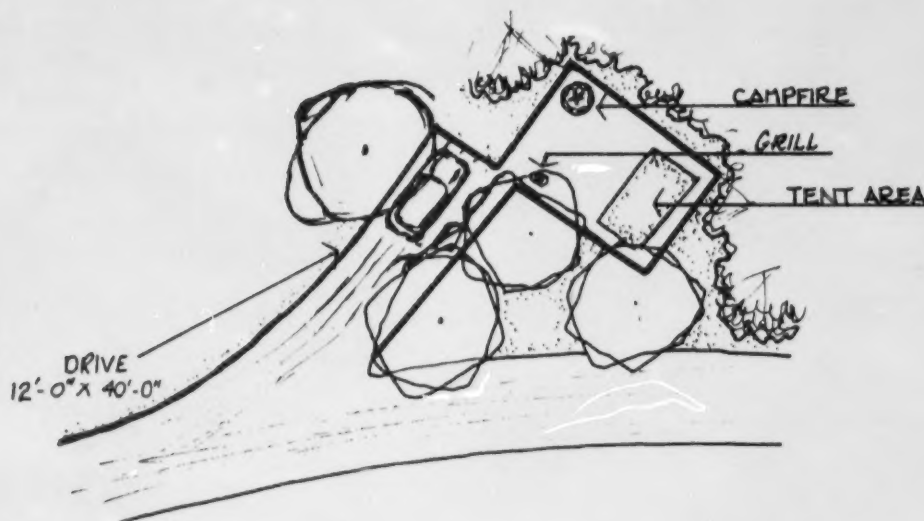


Section 8: Campsites

All camping areas must provide some facilities for the handicapped. The following criteria should be met to accommodate handicapped persons:

- Campsites should have a fairly level terrain.
- Camping areas should be easily accessible to parking lots and within driving distance of local medical facilities with all weather roads provided for emergencies.
- Campsites should be paved areas 14 feet by 16 feet with paved access from the parking space provided. A soft area for tents should be provided within the paved area.

- Water faucets and comfort facilities should be located within a distance of 100-200 feet from accessible campsites. There should be paved access extending from the paved pad to the comfort facilities.
- Dangerous obstructions and poisonous plants should be cleared from around the site, and tree branches should be pruned to a height of 8 feet 6 inches above ground level to insure safety.
- The camping adventure should be a learning as well as recreational experience. Where possible, such amenities as swimming and nature trails should be included. Buffer zones should be provided to achieve the feeling of a natural setting.



Section 9: Interpretive Trails

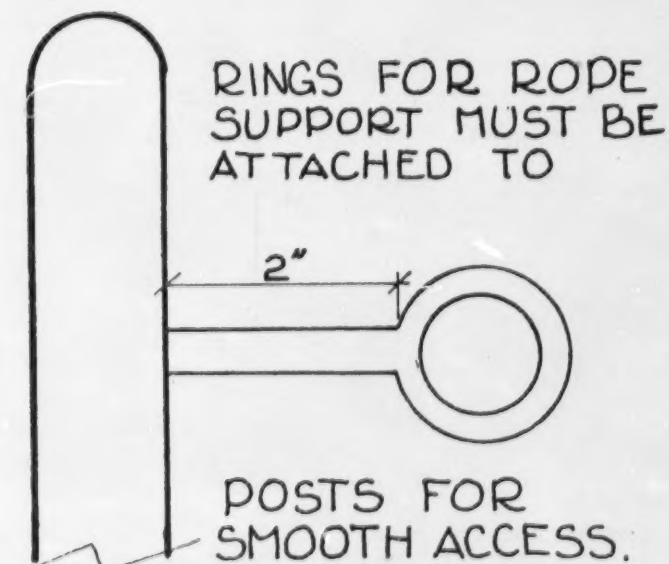
To provide a close association with the elements of a natural setting, accessible nature trails should meet the following criteria to accommodate the handicapped, particularly for the blind and visually impaired.

- The trail should have a sign in braille or a sign with raised or routed letters at the beginning that informs one as to how long the trail is and tells locations of rest stops and comfort stations. Dangerous or inaccessible areas must also be identified and explained.

- Locations and heights of signs should be uniform. Heights should be 36 inches for braille set at an angle and 48 inches for raised or routed letters.
- Special items of interest along the trail should be marked with signs conforming to Chapter 4, Section 8 (p.23).
- Should textural changes occur in walkways, a sign with an explanation of such changes should accompany each change.



- Walks in heavy use areas should conform to standards set in Chapter 4, Section 1 (p.17). In light use areas, asphalt may be used for trails. Often a light colored or white line painted down the center of a walk will guide the visually impaired.



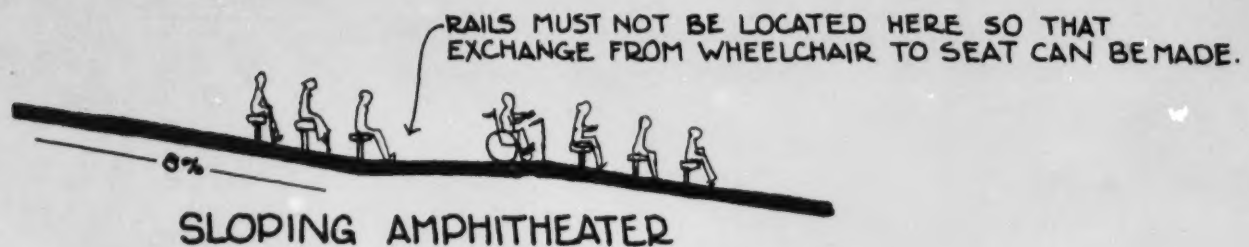
- Trails should be cleared of debris and obstructions. Trails should avoid large, above surface roots or other obstacles.
- Trails consisting of 3 or more ramps and/or slopes in a series should provide rest areas with benches for every other ramp or slope. All slopes and ramps in excess of 30 feet should have a 5 foot rest stop for every 30 feet of length.
- There should be a rope 36 inches high measured from the ground. Ropes should pass through rings on fence posts and should be located along at least one side of the trail. Curves in trails, or dangerous areas, should have such ropes on both sides.
- Ropes should be attached to signs pointing out special areas. Knots in the rope preceding signs will alert the blind to signs.
- Planters can be used in interpretive information areas to raise objects closer to people to avoid stooping or bending.

Section 10: Amphitheaters and Viewing Areas

Parks and recreation facilities which provide indoor or outdoor viewing areas should be accessible for the handicapped. The following criteria has been developed to accommodate handicapped persons:

- Amphitheaters providing seating up to 500 should provide one level of viewing for handicapped persons. Seating of 500 to 1000 should provide 2 levels, one up front, and one in a middle cross aisle. Seating above 1000 should provide 3 levels: one in front, one in back, and one in a middle cross aisle. About 3 percent of the seating space should be for wheelchairs and semi-ambulatory individuals.
- Sloping amphitheaters and amphitheaters with terraced seating must provide levels of a width not less than 8 feet with a firm surface and a drainage slope not more than 1.5 percent. Terraced amphitheaters should have sloping side ramp access.
- All levels for handicapped persons should extend the length of a regular cross aisle.

- Railings with wheel stops should be provided along the edge facing the stage. Railings should be 32 inches high measured from the top of the rail to the floor.

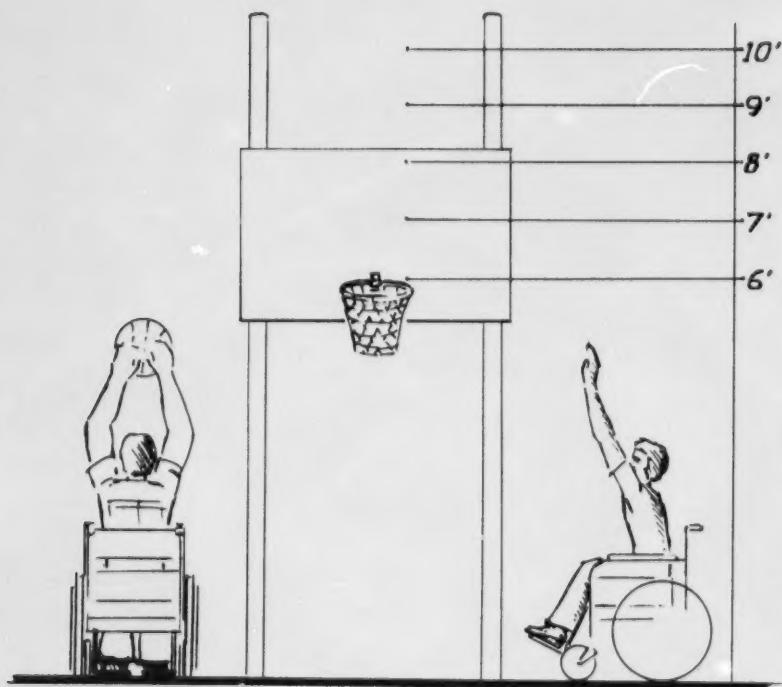


Section 11: Game Areas

All activities enjoyed by able-bodied persons can be enjoyed by handicapped persons as well. Modifications can often be slight and may not incur much more expense than might normally occur, if done at inception. The following suggest methods to accommodate the handicapped:

- All game areas should be enclosed with fences to keep balls and other recreation equipment from leaving the play area.
- Basketball goals and backdrops should be adjustable from heights of 6 feet to 10 feet in one foot increments.
- Outdoor carpet over hard surfaces will aid in golf putting. Devices to retrieve golf balls could be placed in holes and ends of "greens." "Greens" should be at least 5 feet wide to allow a wheelchair to reach the hole.

- Wheelchair users often enjoy an unlimited variety of sports such as tennis, softball, track, football, and others.
- Table tennis, foosball, and other table sports can be accessible to wheelchair users if adequate clear space for movement is provided. Generally, tables must allow at least 5 feet between the edge of the table and the nearest wall, table, or other obstruction.
- Free play areas should have a slight pitch for drainage, but no more than 3 percent (1 foot in 33 feet).
- Rest areas and comfort stations should be provided near high intensity recreation use areas.



CHAPTER 6

CHILDREN'S PLAY AREAS

Parks and recreation facilities can be potential instruments in therapeutic training for all children. Designers of facilities for children should be sensitive to the mental and physical development of special children. As in all children's play areas, provisions for supervision should be made. Avoid rough surfaces, sharp edges and splintering materials around play areas.

Section 1: Game Areas

All play areas should include game areas for catching, throwing, and striking activities. Areas should be enclosed with fences or netting to avoid losing balls and equipment. Areas should be level and provide adequate space to prevent collisions when children are running, but these areas do not have to be large.

Section 2: Riding Areas

Areas for riding play vehicles, such as tricycles, should be provided.

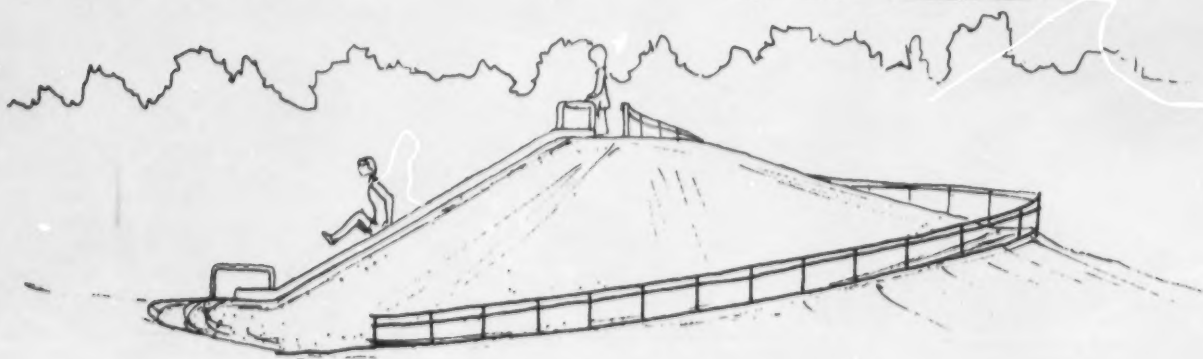


These areas should provide a pathway that is at least 5 feet wide with a grade no more than 5 percent. Railings should be used on all bridges. Paths should provide a variety of experiences such as going over, under, around, up, and down various design elements on rolling terrain.

Section 3: Sliding

Slides for handicapped children should provide access to all types of handicaps. The following criteria should be met:

- No ladders and legs can be used on slides.
- Slides should be embedded in a mound. Access to the top of the slide should be a ramp or series of ramps with a maximum gradient of 8%.
- Grab bars should be provided along the outside edge of ramps and tops and bottoms of slides to accommodate the semi-ambulant.
- The top of the ramp and the bottom of the slide should have a 5 foot by 5 foot level platform for wheelchairs.
- A block of steps, similar to that used in swimming pools, (Chapter 5, Section 3 (p. 29), is helpful for unloading from wheelchairs at top and bottom of stairs.



Section 4: Swinging

Swings can be used to develop physical strength. Conventional swings are adequate for most handicapped children. For severely handicapped children, box type swings should be used.

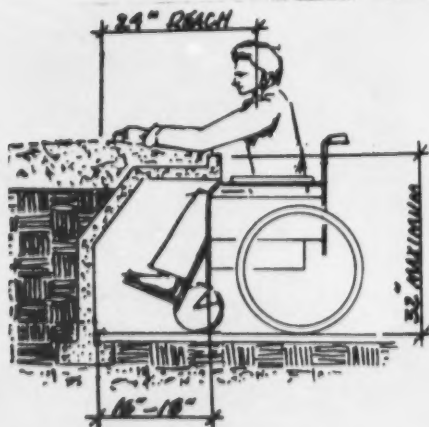
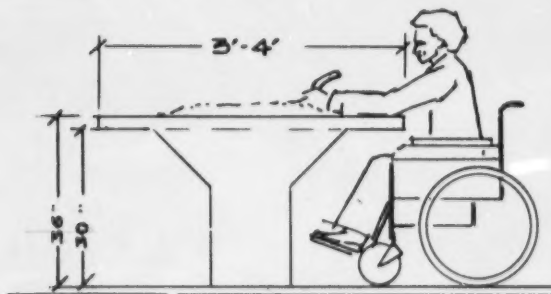
Section 5: Climbing

Climbing bars can be used to develop arm muscles. Bars may be the conventional "monkey bar" type or may take on more innovative forms. Climbing timbers may also be used provided they have rounded edges and are free of splinters. Climbing structures such as this can be incorporated into a sliding mound. Any area for climbing should be over grass, tanbark, or sand.

Section 6: Sand Boxes

Sand boxes may take three different forms:

- Conventional ground level sand boxes may provide activity for most children, but they may not be best suited to all types of handicapped children.
- Mounded sand boxes with recessed areas which are about 36"X30" can accommodate a child in a wheelchair and alleviate many problems.
- Raised sand boxes can bring the box closer to a child's reach. Such boxes may be no higher than 32 inches from the ground. Bottoms of boxes cannot be less than 28 inches from the ground. The box should be no wider



than 3 to 4 feet. Recessed areas can be used to increase the reachable activity area.

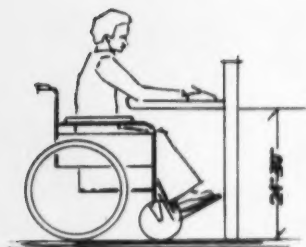
Section 7: Water Play

Swimming activity for children is covered in Chapter 5, Sections 1 and 2 (pp. 25 and 26). For spray pools, see Chapter 5, Section 3 (p. 29). For toy boat sailing, raised boxes, such as those used for sand boxes can be used.

Section 8: Crafts

When providing craft areas for handicapped children, the following considerations should be made:

- The height and size of work spaces should be adequate. Table heights can vary from 24 to 30 inches depending on the size and age group of the children.



- Work space may be on the floor. Children can be placed on mats or pillows placed about the craft area.
- A soft edge should be placed around all raised work space to prevent children from dropping objects onto the floor.
- Non-slip surfaces can be used on table tops to keep items in place while not in use.
- Craft items such as paint and ink wells should be recessed

for cleaning purposes. Larger items often used also should be stationary.

Section 9: Nature Areas

Nature areas for children should conform to Chapter 5, Section 9 (p. 35), with special provisions made to create interest for children. Trails should offer experiences for the full range of senses.



Section 10: Seating

Seating areas for adult supervision should be provided on the periphery of children's play areas, but with a good view.

CHAPTER 7

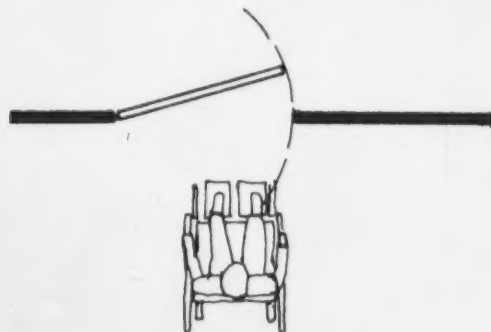
GUIDELINES FOR BUILDINGS AND UTILITIES

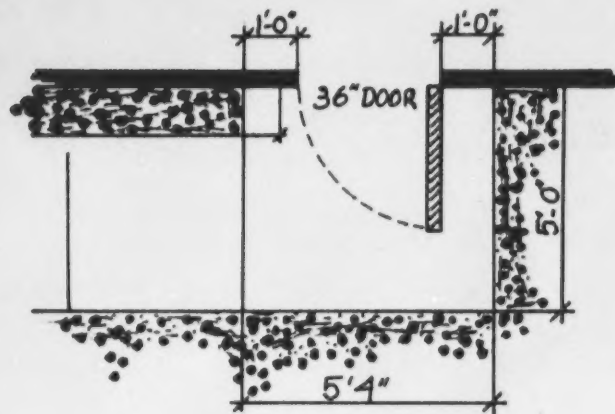
Parks and recreation facilities which contain buildings and related utilities must meet standards set in this section to accommodate handicapped people. All of the following items may not be included in buildings and facilities, but when any item is used, it should conform to standards set here.

Section 1: Entrances

Access to buildings can often be difficult for handicapped persons. To be totally accessible, buildings should meet the following requirements:

- At least one primary entrance to each building or facility must be accessible to individuals in wheelchairs. All ground level entrances that do not meet the specified requirements must exhibit a sign giving the location of a suitable entrance or exit.
- Doors should have a clear opening not less than 36 inches when open.
- Doors should be operable by a single effort. Eight pounds of pressure is recommended for easy opening for most people. If possible, doors into buildings and facilities should be double action doors which swing both ways. When feasible, automatic opening devices are preferred.
- Floor levels inside and outside the door should be flush.





Section 2: Platforms for Entrances

All doors should be double action. Where entry doors swing out, there should be a level, paved platform that is a minimum of five feet, four inches by five feet. This platform should extend a minimum of one foot beyond each side of the doorway.

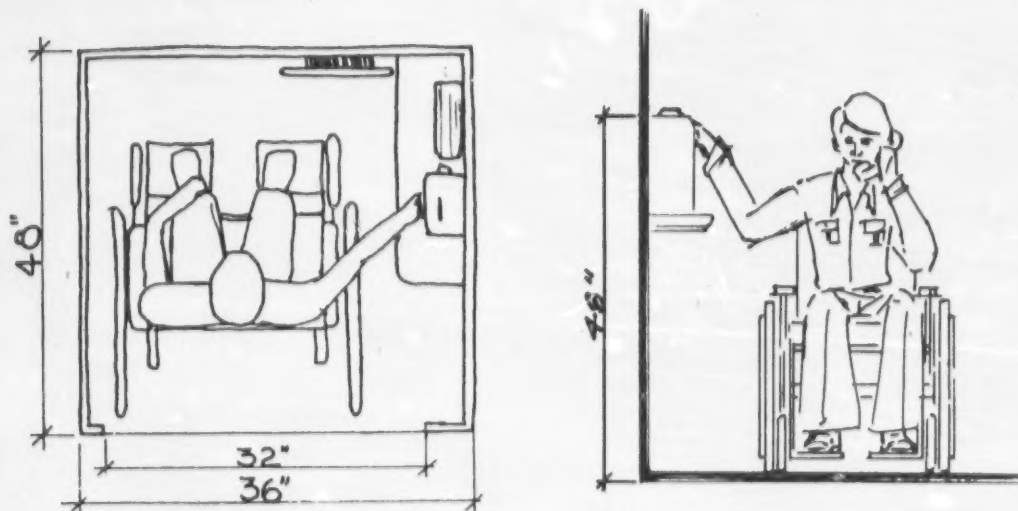
Where doors swing in, the platform may be reduced to a minimum of three feet. All other requirements remain the same.

Section 3: Telephones

All telephone areas for public use should contain at least one telephone which can be used by the physically impaired, including people in wheelchairs and those with hearing and visual impairments. Telephone booths should be avoided with more use made of the open type telephone station. Telephone booths, if used, and telephones should meet the following requirements:

- Booths should be a minimum of 36 inches by 48 inches.
- Telephones should be operated by push buttons.
- Telephone books should be placed 30 inches above the ground.
- A fold-up seat should be provided at a height of 18 inches to 20 inches above the floor.
- Pay phone numbers should have raised characters.

- Telephones should be placed so that the dial, handset, and the coin drop are no more than 4 feet above the floor.
- At least one phone in a bank of phones should have handsets equipped with an adjustable audio control device that can increase the sound level for those with hearing deficiencies.
- All accessible telephones should display the international symbol of access.
- Consult your local telephone office about installation procedures.



Section 4: Electric Power and Control Devices

The placement of power switches can be awkward for handicapped people, especially persons in wheelchairs. The following requirements can alleviate most problems encountered by handicapped people:

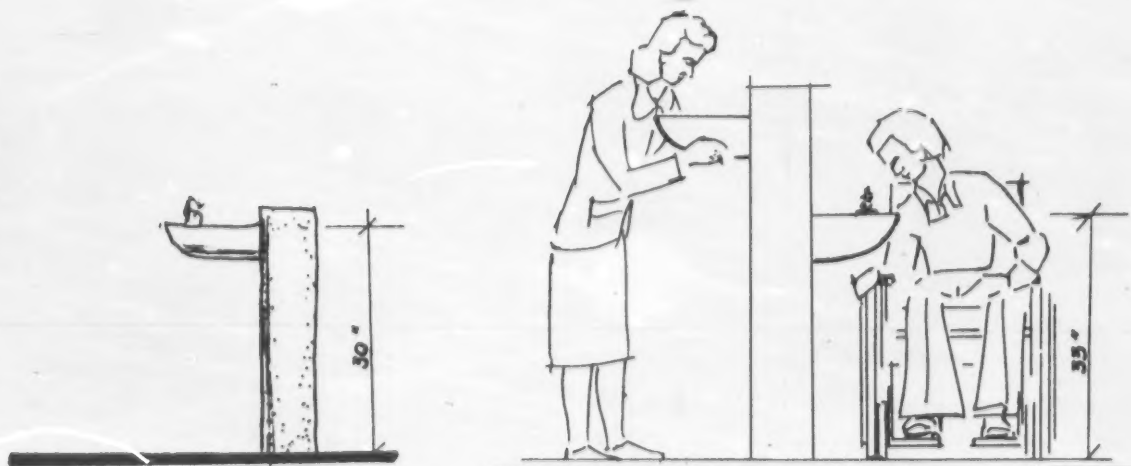
- When electrical outlets are provided, they should be placed at least 12 inches from the ground and should not exceed a height of 48 inches.

- All control devices for light, heat, ventilation, windows, doors, and other similar control devices intended to be operable by occupants should be placed no higher than 4 feet from the floor.

Section 5: Water Fountains

All water fountains used in park buildings and recreation facilities must be accessible to all users, including persons in wheelchairs. To be accessible, water fountains must meet the following requirements:

- Water fountains should have up-front spouts and controls.
- Water fountains should be hand lever and foot pedal operated.
- When a single fountain is used, it should be no more than 30 inches from ground/floor level. If a cooler higher than 36 inches is used, an additional cooler no higher than 33 inches above the floor should be used adjacent to the conventional fountain. This is useful for children as well as those in wheelchairs.
- Water fountains should not be placed within 3 feet of any obstacle. Room corners should not be used as locations for fountains.



Section 6: Floors

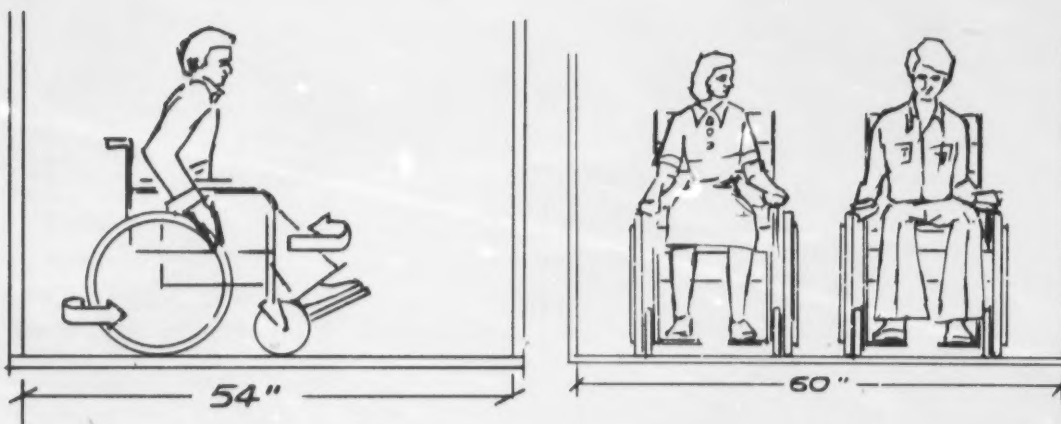
- Floors should be of a common level.
- If level changes occur, ramps conforming to Chapter 4, Section 5 (p. 19) should be used.

Section 7: Stairs

Consult local building codes with considerations for standards set in Chapter 4, Section 6 (p. 21). Normally, interior stairs will have a maximum riser of 7 inches with a minimum tread of 12 inches.

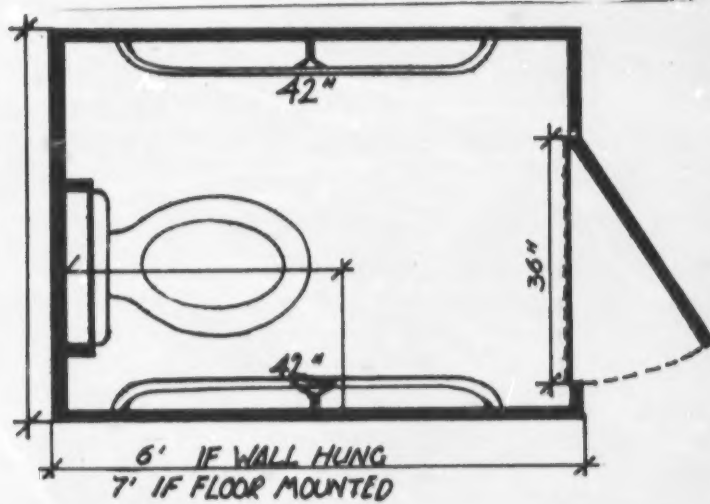
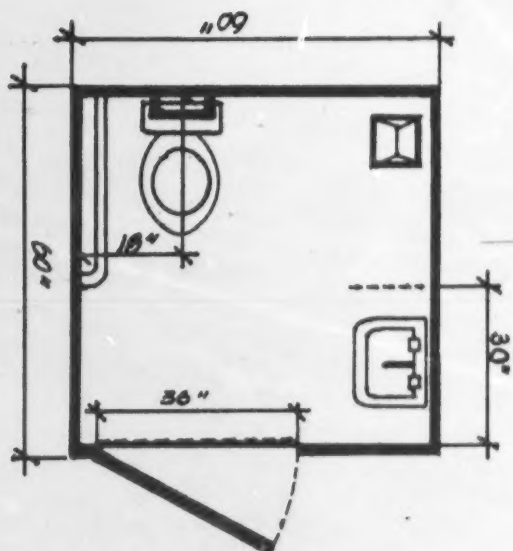
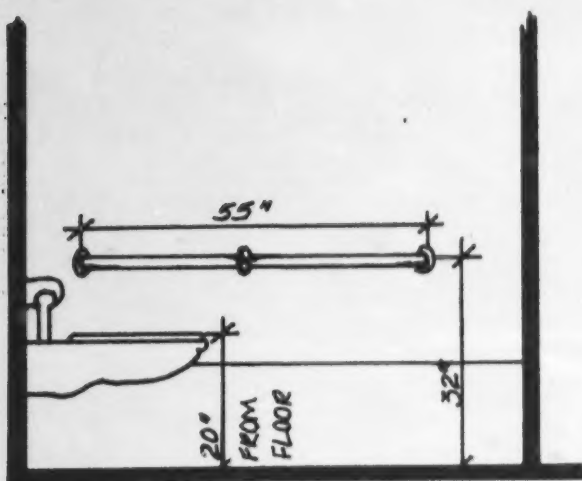
Section 8: Corridors

Corridors require a 60 inch distance between the walls to allow a 360 degree turn. A 60 inch width is mandatory for any two individuals in wheelchairs to pass each other.



Section 9: Toilet Rooms

- All parks and recreation facilities offering restroom facilities must provide a minimum of one fixture of each type of toilet facility (mirrors, sinks, toilets, etc.), or 2 percent of the total number, whichever is greater, for use by the handicapped.
- Where only single facilities (one for men, one for women) are used, the room itself should be considered the stall, and must meet standards set in this section.



- Doors and platforms should conform with standards set in Section 1 of this chapter.
- Toilet rooms must have a minimum clear floor space of 60 inches to facilitate turning space for wheelchairs.

Section 10: Toilet Stalls

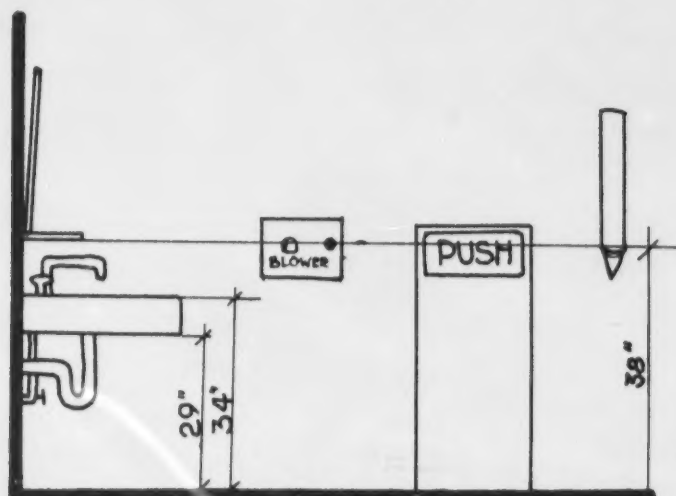
- Stalls must be a minimum of 5 feet wide with the center line of the toilet seat 18 inches from one wall.
- Stalls must be 7 feet deep for floor hung toilets and 6 feet for all wall hung toilets.
- Doors should have a clear opening of at least 36 inches when open 90 degrees. The door should swing out and be operable by a single effort.
- Toilet seat height may be as high as 20 inches from the floor for some people. Standard 18 inch toilets may be used only if a 2 inch filler seat is provided in each stall. Toilets should have a narrow under structure that recedes sharply.
- Stalls should have stainless steel grab bars 32 inches high and 55 inches long. Handrails should be parallel to the floor. Handrails should be one and one-half (1½) inches in outside diameter with a 3 inch clear space between rail and wall. Handrails should be securely fastened at ends and center and be able to support a 300 pound weight load.
- Clear floor space in front of the stall must be a minimum of 52 inches deep and a minimum of 62 inches wide.

Section 11: Other Fixtures and Standards

- Wall mounted urinals should have a basin opening of 19 inches from the floor and should be equipped with substantial railings, securely fastened to the wall on either side of the urinal.
- Sinks should have a basin no higher than 34 inches from the floor. Bottoms of aprons should be no less than 29 inches above the floor to facilitate wheelchair users. All the pipes under the sink

should be insulated with insulator tape to prevent burns to those who lack temperature sensations.

- Mirrors for the handicapped should be a height of 38 inches from the floor measured from the bottom of the mirror. Shelves on mirrors should be no more than 38 inches above the floor, also.
- Any facilities such as towel racks, dispensers, etc., should be no more than 38 inches from the floor.
- Push button hand dryers best serve the handicapped. They should be located near sinks, preferably so as to facilitate no extra wheel-chair turns.



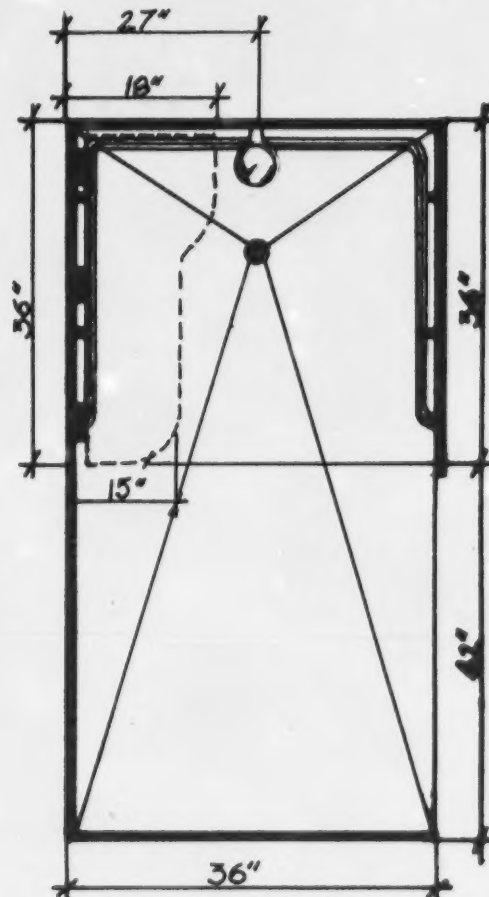
Section 12: Shower Stalls

Parks and recreation facilities which provide showers should provide one shower stall (or 2 percent of the total number of stalls, whichever is greater). These shower stalls should meet the following requirements:

- Inside stall dimensions should be 3 feet in width, should be no less than 3 feet by 3 feet in length, and should have thresholds flush with the bathhouse floor. For drainage, the floor of the stall must

slope not more than 2 percent away from the bathroom floor.

- Floor surfaces should be non-slip.
- A hinged seat 15-18 inches wide covered with soft, non-abrasive material 19 inches above the floor should be installed so that it may be folded down for sitting and folded up against the wall when not in use.
- A grab bar 33-36 inches above the floor should be located around all walls.
- All control levers, soap dishes, and other stall accessories (except shower heads and overhead lights) should not exceed a height of 30 inches above the stall floor.
- Hot and cold knobs should be marked with raised letters to aid the blind. Levers should be knurled for gripping.



- The minimum clear floor space in front of the shower stall should conform to the same as that for bathroom toilet stalls.
- Doors that swing out or curtains should be used for privacy.
- A flexible hand-held hose with a shower head is best suited to persons who must sit to shower. Dual shower head holders should be placed at 42 inches for wheelchair users and at standard height for others.
- Dressing rooms adjacent to showers should include benches 23 inches wide and 6 to 8 feet in length covered with soft, non-abrasive water resistant material.

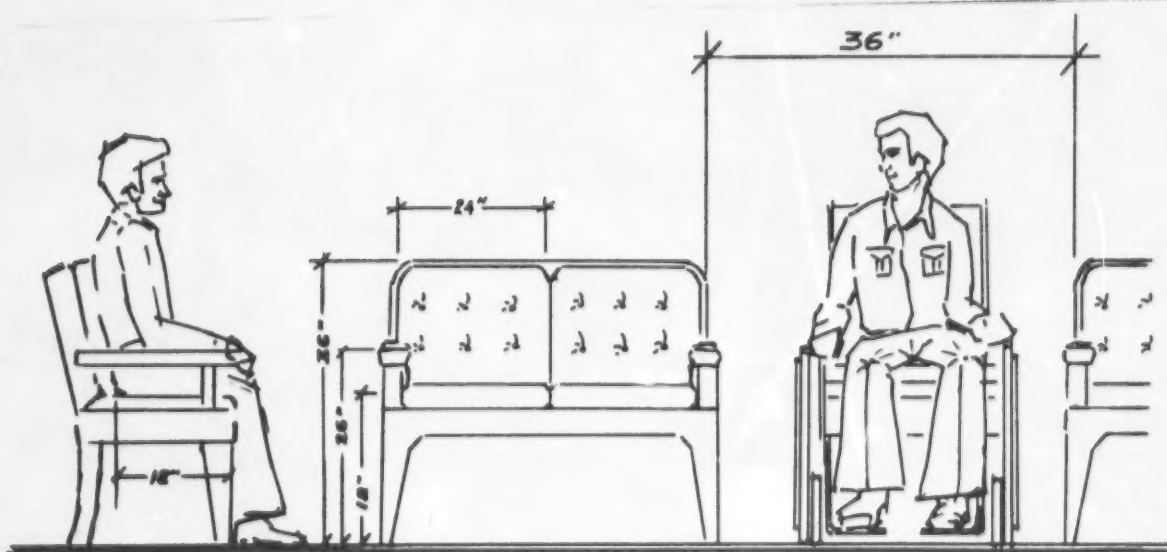
CHAPTER 8

GUIDELINES FOR FURNISHINGS

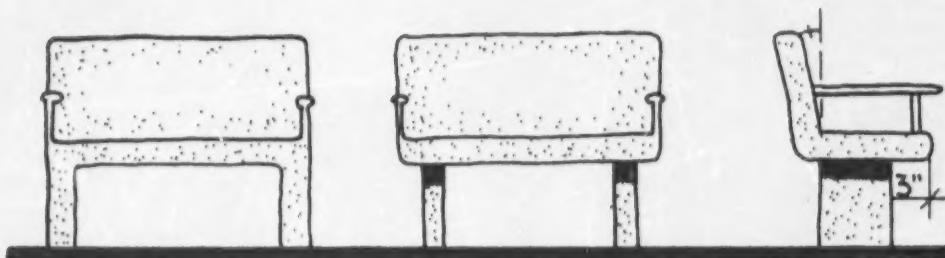
All furnishings used in parks and recreation facilities, whether used indoors or outdoors, should conform to the following standards.

Section 1: Benches and Chairs

- Benches and chairs should have back rests 36 inches high and arm supports 8 inches above the seat.
- Seats should be 18 inches wide and 18 inches above the ground.



- Construction materials for benches should be non-abrasive, non-splintering, and should not retain heat or cold.
- Seating should be designed to support a 300 pound weight for each person.
- Nearest obstacles in front of benches should be placed no closer than 5 feet. Leave a space 36 inches wide between ends of benches or at the end of one bench to allow room for strollers and wheelchairs to park on a paved surface.
- Side supports should be used, but if supports are underneath seats, a 3 inch heel space is required.
- Benches should not be located so as to create an obstruction. Benches should have a 24 inch setback from walks and paved areas for pedestrian circulation.
- All edges should be rounded.

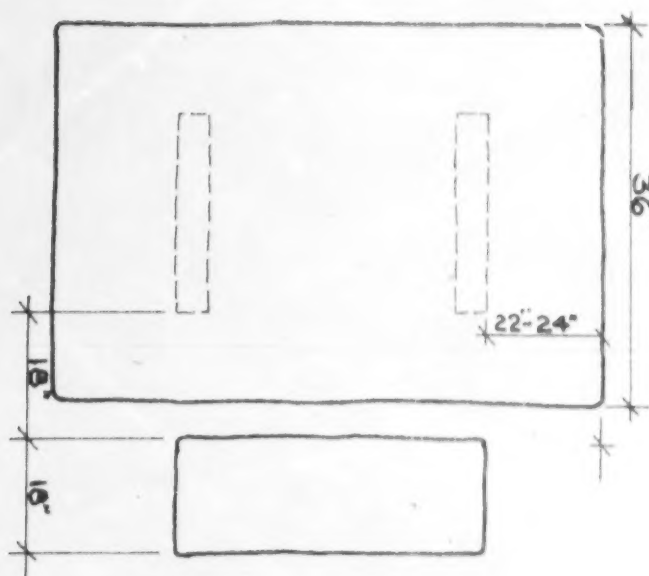
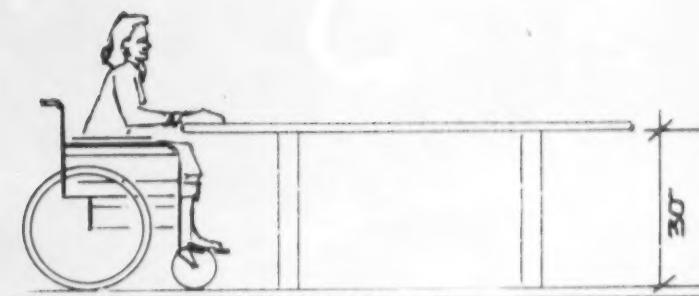


Section 2: Tables

All tables to be used by the handicapped should meet the following requirements:

- Tables should have a clear space of 30 inches from the ground.
- The spacing from the edge of the table to any under supports must be 22 to 24 inches to allow a wheelchair to slide under one end or one side.

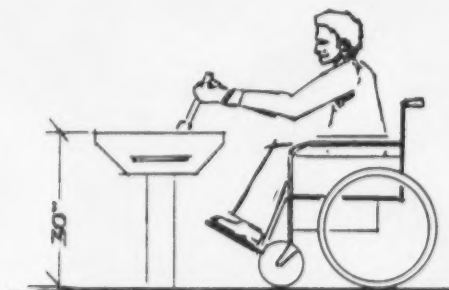
- To accommodate reaching lengths for wheelchair users, tables should be 36 inches wide.
- Tables should be located on paved pads flush with walks leading to them.
- Paved pads for accessible tables should be designed to have clear surrounding access of 5 feet around the table and side benches. Where this is not feasible, at least one end must have a 5 foot clearance.
- All edges of tables and benches should be rounded or chamfered.
- Accessible tables should be marked with the international symbol of access.



Section 3: Outdoor Grills

All parks and recreation facilities which provide outdoor grills should provide a minimum of one or 2 percent, whichever is greater, for use by the handicapped. Grills should conform to the following criteria:

- Tops of grills should be 30 inches from the ground.
- Grills should rotate 360 degrees for easy access to persons in wheelchairs.
- Grills should provide shelves on two opposite sides to hold cooking utensils and other items.
- Grills should be located adjacent to hard surface paved pads used for picnic tables.
- Provisions should be made to insure against burning people who have lost their sense of temperature.

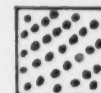
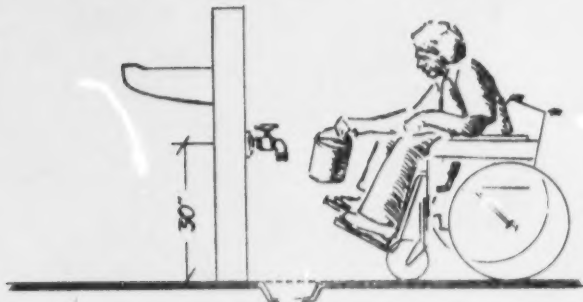


Section 4: Outdoor Water Fountains and Faucets

All outdoor water fountains and faucets should meet the requirements set in Chapter 7, Section 5 (p.48). The following requirements should also be met for outdoor facilities:

- Foot and hand lever type handles that require a maximum pressure of 8 pounds to operate must be used.
- Water faucets should be no higher than 30 inches from the ground.
- Fountains and faucets should be located on a hard surface pad 36 inches by 48 inches with access conforming to standards set in Chapter 4, Section 1 (p. 17).

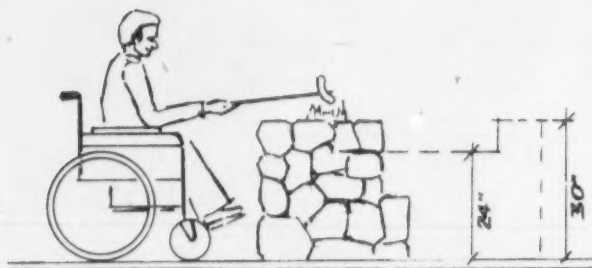
- All fountains and faucets should provide a 12 inch drain. Drainage holes in the grate should be squares or circles.



Section 5: Campfires

Some campfires for public use should be raised to a height of 2 feet above the ground to enable use by wheelchair persons.

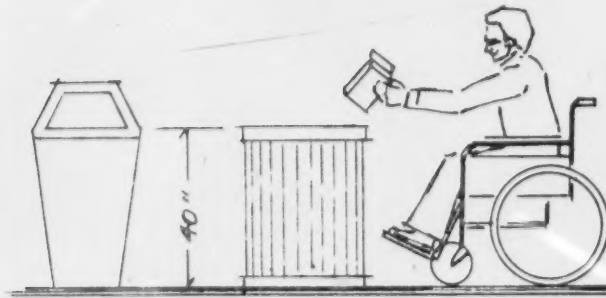
Seating conforming to standards set in this Chapter, Section 1 (p. 55) should be located within a distance of 3 feet from the campfire.



Section 6: Trash Containers

All trash containers used in parks and recreation facilities should comply with the following standards:

- Trash container opening heights should not exceed 40 inches.
- Push type openings are preferable, but when lift-up lids are used, they should be operable by a single hand effort.
- Containers should be accessible to wheelchair users with walks conforming to Chapter 4, Section 1 (p. 17).
- All edges of containers should be smooth or rounded.
- Below ground containers are acceptable, provided a $1\frac{1}{2}$ inch metal pole with a pulley lifting cable not exceeding 10 pounds lifting weight, is installed adjacent to the container.
- All above ground containers should be strong and stable enough to support semi-ambulatory people who might lean against them.



ACKNOWLEDGMENTS

Recreation for All is a compilation of standards which have been adapted from other sources for use in recreational facilities. The following sources served as the basis for the foundation of this Manual:

An Illustrated Handbook of the Handicapped Section of the North Carolina State Building Code, Ronald I. Mace, AIA, Betsy Laslett, editor, 1973.

Barrier Free Site Design, a report conducted by the American Society of Landscape Architects Foundation under a contract with the U.S. Department of Housing and Urban Development, Office of Policy Development and Research, 1975.

Design Standards to Accommodate People with Physical Disabilities in Park and Open Space Planning, compiled by the Recreation Resources Center, University of Wisconsin, Michael L. Ries, Landscape Architect, 1973.

Georgia Laws, 1972, Act No. 1255, Senate Bill No. 412.

Into the Mainstream, Stephen A. Kliment, the American Institute of Architects, 1975.

Making Facilities Accessible to the Physically Handicapped, State University of New York Construction Fund, Albany, New York, 1967.

Mainstreaming Handicapped Individuals, Parks and Recreation Design Standards Manual, State of Illinois, Department of Conservation, 1978.

Opening Doors, a Handbook on Making Facilities Accessible to Handicapped People, National Center for a Barrier Free Environment, Washington, D.C., 1978.

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- Georgia Easter Seal Society
- Georgia Wheelchair Sports Steering Committee
- Governor's Committee on the Employment of the Handicapped
- White House Conference on Handicapped Individuals, Governor's Commission, Division of Vocational Rehabilitation, Georgia Department of Human Resources.

The Georgia Department of Natural Resources wishes to thank all the representatives of these groups and the publications listed above for all of their valuable assistance.